

XIII. *A Monograph of the genus Catochrysops Boisduval (Auctorum).* By G. T. BETHUNE-BAKER, F.L.S., F.Z.S.

PLATES XII—XXXII.

[Read May 5th, 1922.]

THE genus *Catochrysops* was raised by Boisduval in the "Voyage Astrolabe," p. 87, 1832, and in it he placed three species, *cyta*, *strabo* and *centaurus*—three heterogeneous species, and in more recent years a large number of others, chiefly African, have found a resting-place therein.

In 1875 Scudder, in his "Historical Sketch of the Generic Names of Butterflies," selected for the type of the genus *strabo* (p. 136), but until this time it appears to have been quite overlooked; after this Moore used it in his "Butterflies of Ceylon," and Distant in his "Rhop. Malay." Then came de Nicéville in his work on the Indian *Lycaenidae*, in which he carefully diagnosed it and catalogued the species of his area. After this Aurivillius, in his "Rhopalocera Aethiopica," refers to it as a synonym of his huge genus *Cupido*, and he places all its species and others in his fifteenth section—a very heterogeneous assembly indeed. It has been in general use since that time.

I wish I was able to follow the distinguished Swedish author in his usage of the genus *Cupido*, but, when he says it is the oldest genus, I am quite unable to follow him, and in addition he has apparently overlooked the fact that as long ago as 1870 Kirby had fixed the type of *Cupido* as "*alsus*" (*minima*). It would also appear from his (Aurivillius') remarks on the Lycaenine genera that structural characters do not carry much weight with him, because many of the genera he sinks are based on very definite structural differences.

If I review de Nicéville's use of the genus it will serve, I think, for all the Eastern species, whilst a review of Aurivillius' use will in like manner serve for the African species.

De Nicéville uses the genus for species that possess three quite distinct types of prehensores—viz. *C. strabo* Fab., and *lithargyria* Moore; *C. cnejus* Fab., with its forms *hupalina* Butler, *theseus* Swinhoe, and *pandava* Horsfield; and *C. ella* Butler and *C. contracta* Butler. These may be races of each other, but they belong to a totally different group; they are essentially Lycaenid in their genitalia (by "Lycaenid" I mean they belong to the group of which *Lycaena arion* is the type). I am quite unable to judge why so keen an observer as de Nicéville should consider that they are forms of *C. cnejus*. Lastly, we have *C. pandava* Horsfield and *nicola* Swinhoe—again with widely differing genitalia which are essentially Plebeid in their development. I shall consider these in detail elsewhere, but I think that each of the latter two sections will require a generic name; whilst of *Catochrysops*, as restricted above, I have no doubt that Butler was correct when he gave *cnejus* the new generic name of *Euchrysops*, and this genus of the Asiatic group only can be included in this memoir.

Turning now to Aurivillius we find that in his "Rhopalocera Aethiopica" he groups a vast assemblage of genera and species under the omnibus genus *Cupido*, which he divides off into sections, calling them first group, second group, and so on. I can see a reason for using a single name for a great genus, but if it is necessary to divide it up into sections or groups I can see no reason for discarding the names given to those groups, more particularly when most of those names have been bestowed because of the structural characters obtaining in the species dealt with. The fifteenth group contains all the African species of *Catochrysops* with which Aurivillius was acquainted, but he also includes in the same section twenty-two other species belonging to quite different genera.

I have found one well-marked character in the genitalia that obtains in all the species I have dealt with, but does not obtain in any of the twenty-one species included by Aurivillius in the section, viz. the junction in a most definite way of the furca and the anellus through which the aedoeagus invariably passes and in which it rests; whilst in addition to this character the whole form and structure of the genitalia differ considerably from them.

The following is a list of the species which I exclude.

<i>Cupido eleusis</i> Demaison.	}	<i>Cupido cissus</i> Godart.	}
„ <i>contractus</i> Butler.		„ <i>iobates</i> Hopffer.	
„ <i>lois</i> Butler.		„ <i>micyclus</i> Cramer.	
„ <i>sancti Thomae</i> E. M. Sharpe.		„ <i>togara</i> Plötz.	
„ <i>scintilla</i> Mabille.		„ <i>stellata</i> Trimen.	
„ <i>sanguigutta</i> Mabille.		„ <i>anatossa</i> Mabille.	
„ <i>messapus</i> Godart.		„ <i>gaika</i> Trimen.	
„ <i>mahallakoena</i> Wal-lengren.		„ <i>lysimon</i> Hübner.	
„ <i>hippocrates</i> Fabricius.		„ <i>mylica</i> Guenée.	
„ <i>trochilus</i> Freyer.		„ <i>lucida</i> Trimen.	
		„ <i>atrigemmata</i> Butler.	
		„ <i>unigemmata</i> Butler.	

I have bracketed those that are closely allied. The first four, *eleusis*, *contractus*, *lois*, and *sancti Thomae*, belong to an Oriental group of species that have hitherto been placed in *Catochrysops* by most recent authors; but the type of *Catochrysops* being *strabo*, it is not possible to retain them in that genus, because they have genitalia closely allied to the genus *Lycaena*, and are therefore *Plebeinae*, whilst *Catochrysops* belongs to the *Lampidinae*.

*Scintilla* should also be included among the *Lampidinae*, and *sanguigutta*; but whilst the pattern of the latter is closely allied to *scintilla*, the genitalia are quite different and are similar to the next group, and thus it links up the two sections.

The third group, *messapus*, *mahallakoena* and *hippocrates*, form a group of their own with several more recently described species, and have the furca quite free, that is, a simple bifurcate organ arising from the harpagines near the base, but with the tegumen very specialised, and I think they should be included in the *Lampidinae*. *Trochilus* is a *Chilades* somewhat allied to the Palaearctic *galba* and *phiala* and the Indian *laius*.

*Cissus* and *iobates* should, I think, be also placed in the *Lampidinae*, though the genitalia are somewhat specialised.

*Micyclus* and *togara* are allied to the large world-wide *Lycaenopsis* section, but it is well to state that they are two separate species. Aurivillius considers them ("Rhop. Aethiop.," p. 377) as the same, but I came to the conclusion after examining a number of each that they must be distinct, and I therefore dissected out the genitalia and found they were quite different (see Plate XXV, figs. 64 and 65).

*Anatossa, gaika, lysimon, mylica, lucida, atrigemmata* and *unigemmata* all belong to the *Zizeeria* group, and have been most ably and effectively dealt with in the Transactions of the Entomological Society of London, 1910, p. 479, by my esteemed and much-missed friend, the late Dr. Chapman.

I figure (Plate XXV, fig. 63) the genitalia of *Catochrysops strabo* to enable my readers to see the very marked difference in the whole formation of these organs, and I would draw attention to the simple furca of this genus compared with the much more extensive organ obtaining in *Neochrysops* and its allies. *Lycaenopsis* (?) *micyclus* and *togara* I also figure, to show that these are quite evidently distinct species (Plate XXV, figs. 64 and 65).

As is usual with this family, we have some range of colour differences, blues of various shades toning down almost into white. Browns in both sexes are not uncommon; whilst there is one species, *cupreus* Neave, which is a very beautiful and unusual coppery brown with a fine blue female. Sexual dimorphism is very rare in the group; in *malathana*, in *cupreus*, in *victoriae* we find brown or brownish males with blue females, the same also occurs in *neavei*, but these with one or two more are quite exceptional, the general characteristic being that both sexes are more or less the same colour, though the area of blue is less in the female than it is in the male; and we have no case at all in which the males are blue and the females brown, a dimorphism that is very common in the palae-arctic region and elsewhere. There are, however, several species in which both sexes are brown.

The androconia or battledore scales are interesting; for species ranging so large in size as these do they are very small indeed, there being only one species with these scales of any considerable dimension; they are of great assistance in separating closely allied species. I showed some years ago (Trans. Ent. Soc. Lond., 1913, p. clix) that androconia were not confined to species with blue coloration, but that they also obtained in some quite brown ones; this is confirmed by this genus, for all the brown males with two or three exceptions have well-marked androconia (battledore scales), whilst there is one blue one that has none of them. These scales, however, sometimes differ in development, and I have figured several abnormal examples to show this process (Plate XXXII).

The eyes of the majority of the group are hairy, but there is a small number that have glabrous eyes, several of these, however, have the clasps of quite a different shape, and they will probably form new genera; the furca and anellus are, however, of the specialised structure already referred to, thus showing that they belong to this group *in sensu stricto*.

The distribution of the group is very limited; the great majority are confined to the Aethiopian region, and many appear to have a very restricted range therein. None whatever obtain in both the Oriental and Aethiopian regions, though if the pattern alone were considered there would be little doubt that *E. cnejus* and *E. osiris* would be placed as Indian and African forms of the same species; the genitalia are, however, very different, the androconia likewise differ, thus proving the distinctness of the two. There are two species common to Africa and Madagascar, and there is one species peculiar to Madagascar, whilst there are sixty species peculiar to the African continent itself. In the Oriental Region I only recognise two or three species, viz. *cnejus* with probably the Bali Island race *suffusus* Rothschild; whilst *luzonicus* Röber may possibly be another species, though from the genitalia (see Plate XXIII, fig. 50a) I rather doubt even this.

Scudder fixed the type of the genus *Catochrysops* as *strabo*, an oriental species and quite different generically to all the other species hitherto included in Boisduval's genus; it becomes necessary therefore to erect a new one to contain the large assemblage of African species, and I propose the name *Neochrysops* for this purpose.

#### NEOCHRYSOPS gen. nov.

Head smallish, eyes small, hairy; frons rather broad, central area filled with loose scales and hairs, margins having closely appressed scales; antenna with long tapering clubs to beyond the centre of the costa. Palpi of moderate length, basal segment short, second segment long, end segment shortish; the two former covered with closely appressed scales giving a very smooth appearance. Legs, mid and hind pair, with a pair of short spines on tibiae at tarsal joint.

Wings. Primaries moderately broad, not long, with straightish costa, hind margin arched; secondaries, not very ample, evenly curved from the apex. Neuration. Primaries: vein 2 emitted

at two-thirds from the base, 3 from before the angle, 5 from about the centre of the discocellulars, which are rather prominently V-shaped only in a horizontal position, 7 from behind the upper angle, 8 from 7 from rather beyond its centre, 9 absent, 10 from midway between 11 and the upper angle, 11 from about the middle of the cell, 12 not reaching to the end of the cell and fairly straight. Secondaries: vein 2 from beyond the middle of the cell, 3 from before the lower angle, 5 from about the middle of the V-shaped discocellulars, 7 from the cell before the upper angle, 8 highly arched towards the costa.

Type *Neochrysops parsimon* Fabricius.

Fabricius's insect is the earliest described species of the group, and it is essentially typical of the majority of the African species; I have therefore selected it as the type in honour of this laborious and voluminous Danish naturalist.

*Neochrysops niobe* Trimen. Plates XII, fig. 1; XV, fig. 2, and XXVI, fig. 2.

*Lycaena niobe* Trimen, Trans. Ent. Soc. Lond., p. 282 (1862); *id. idem* Rhop. Afr. Austr., p. 253 (*in parte*), Pl. 4, fig. 10 (1866); *id. idem* S. Afr. Butt., ii, p. 36 (*in parte*) (1887).

*Cupido niobe* Aurivillius, p. 378 (*in parte*) (1898).

*Catochrysops niobe* Butler ??, P.Z.S. Lond., p. 186 (1898).

♂. Upperside, both wings dull cupreous violet with no markings, no bar at end of cells, with broad brown termen. Underside, both wings, dark brownish grey with black spots with pale edging, a pale greyish white postmedian stripe beyond the postmedian series of spots. Primaries with a spot closing the cell, the postmedian series composed of six spots, the upper three forming a marked short curve outwards, whilst the lower three are inverted and are curved inwards, the third spot is slightly oval and oblique, and the sixth spot below vein 2 is double; there is a very bare trace of a submarginal and marginal series of slightly darker dashes. Secondaries with all the spots reduced to points or dots, the four near the base just traceable in the position usual to the genus, the postmedian series interrupted below the fourth spot, the last spot (very small) on the inner margin distinct, practically no trace of the marginal and submarginal dashes, a subanal small marginal spot sometimes present.

♀. Upperside, both wings, brown with the basal and median areas violet. Underside as in the male.

Expanse, ♂ 34-38; ♀ 39-42 mm.

*Hab.* Knysna, CAPE COLONY.

Types in the Joicey collection.

An exceedingly rare and local species at present only recorded from Knysna.

Genitalia very broad and of moderate length, somewhat curved above and below, at a third from the apex it is reduced and the tip is folded over into a very broad rounded dentate lobe, knobbed on its upper margin; the teeth are strong, but are smaller and more numerous than in *lacrimosa*; furea broadish, highly curved, with the anellus but slightly developed; aedoeagus longish tapering gradually towards the tip; apex hooked with two large strong teeth at a fifth from the end; cingulum broad, somewhat angled; tegumen, a very narrow elevated ridge at the extreme rear, with the cheeks produced well forwards, somewhat lobe-shaped, with numerous longish, straight bristles; falces broad and strong, of but moderate length.

Androconia slightly variable in size, pyriform, asymmetrical, subconical distally; footstalk broad and long, asymmetrical proximally, usually with fourteen rows of reticulations very closely appressed and irregular, being slightly twisted, and so close vertically as to almost appear to be ribbed; in the larger sized androconia there are two or three more reticulated rows.

*Neochrysops lacrimosa*, sp. n. Plates XII, fig. 2; XV, fig. 3, and XXVI, fig. 3.

*Lycaena niobe* Trimen (*in parte*), Rhop. Afr. Austr., p. 253, Pl. 4, fig. 10 (1866); *id. idem* S. Afr. Butt., ii, p. 36 (*in parte*) (1887).

*Catochrysops niobe* Butler, P.Z.S. Lond., p. 186 (1898).

*Cupido niobe* Aurivillius, p. 378 (*in parte*) (1898).

♂. Upperside, both wings dull violet colour, rather pale and slightly iridescent, with narrow brown termen and without spots at the end of the cells. Underside, both wings pale grey, with black spots edged with white. Primaries with a sublunular dash closing the cell; the postmedian curved series composed of six spots, the third placed obliquely, the sixth minute; an indefinite row of submarginal, internervular lunules preceded by a broadish, whitish area, and a trace of a terminal row of similar half-moons. Secondaries, all the spots very small, four minute dots near the base, three below each other and one on the inner margin close to the base, a fine dash closes the cell; the postmedian series consists of eight spots, the first below vein 8, the second to the sixth arranged in a

deep curve, almost a small semicircle, the seventh is shifted far outwards and the eighth inwards; a broad whitish area follows, and is edged externally by an indefinite row of internervular lunules, which is succeeded by a terminal row of semicircular, barely traceable marks, a trace of a subanal black spot.

♀. Upperside, both wings brown with the basal and the median areas lustrous blue, with a trace of a spot closing the cells. Underside as in the male.

Expanse, ♂ 33-38; ♀ 35-40 mm.

*Hab.* Newcastle, NATAL (KAFFIRLAND, ZULULAND; TRANSVAAL?).

Types in my collection.

This species has hitherto been confused with *N. niobe* Trimen, that author himself having considered it as merely an aberration of his insect. The androconia are, however, very different and quite prove its distinctness.

#### *Neochrysope lacrimosa major* var. nov.

♂. Upperside, both wings solid violet blue, a full-toned colour, without the iridescent hue noticeable in the smaller race. Underside, both wings similar to the parent form, but with the underside paler and all the markings well accentuated. A very much larger race than the other.

Expanse, ♂ 44 mm.

*Hab.* Newcastle, NATAL.

Type in my collection.

Trimen refers to the variableness of the species, but does not mention the difference in size, which with the marked diversity in colour makes the local form quite worthy of a name; the genitalia are quite typical.

Genitalia. Harpagines very broad indeed and moderately long, upper margin highly arched from the base to beyond the middle, where it is somewhat excised to the apex, which ascends slightly into a knobbed extremity; lower margin waved, with the terminal half expanded into a large rounded dentate lobe whose saw-edged teeth are large and strong; furca unusually well developed, with the anellus having a well-curved front margin; aedoeagus of moderate dimensions with two strong teeth near the extremity, on the upper edge, the apex itself being expanded into a large trumpet-mouthed orifice; egingulum broadish, angled forward above the middle; tegumen a narrow, substantial ridge with rounded



checks and strong broad falces shorter than usual. Harpagines and checks well supplied with longish bristles.

Androconia conical, but with the distal half tapering rapidly to an acute apex, stalk long and broadish, twelve rows of reticulations placed rather close together both laterally and vertically.

**Neochrysops ariadne** Butler. Plates XV, fig. 4; XXVI, fig. 4.

*Catochrysops ariadne* Butler, P.Z.S. Lond., p. 193, Pl. XX, figs. 3, 4 (1898).

*Cupido ariadne* Aurivillius, Rhop. Aethiop., p. 378 (1898).

♂. Upperside, both wings violet blue, rather brighter than in *N. lacrimosa*, with broadish brown termen—no mark at the end of the cells. Underside, both wings brownish grey, very similar in colour to *N. niobe*, with black spots encircled with white. Primaries with a spot closing the cell, postmedian series composed of five subpyriform spots, well arched and inclined inwards towards the fold, a trace of a very small spot below the fifth, a series of six white internervular spots, a row of marginal spots of ground-colour edged internally with whitish lunules. Secondaries almost precisely as in *N. niobe* but all the pattern emphasised, with a black subanal spot with blue metallic scales.

♀. Upperside, both wings brown with a very restricted dull violet basal area. Secondaries with an indistinct postmedian row of pale violet spots. Otherwise as in the male.

Expanse, ♂ and ♀ 42 mm.

*Hab.* NATAL.

Types in the British Museum.

Genitalia. Harpagines rather narrower than in *niobe* or *lacrimosa*, with the dentate flap having many more teeth of a decidedly smaller size; the anellus and aedoeagus are very similar to *lacrimosa*; the tegumen is decidedly larger, with more ample cheeks, which are angulated, not rounded; the falces large and broad, with the hooked extremity much more pronounced.

Androconia, conical, acute and asymmetrical distally, with a longish taper proximally into the attachment stalk; eleven rows of reticulations irregular as in *N. niobe*, but placed further apart as in *N. lacrimosa*.

**Neochrysops tantalus** Trimen. Plates XV, figs. 5, 5a; XXVI, fig. 5.

*Lycaena tantalus* Trimen, S. Afr. Butt., ii, p. 38 (1887).

*Cupido tantalus* Aurivillius, Rhop. Aethiop., p. 376 (1898).  
*Lycæna tantalus* Trimen, Trans. Ent. Soc. Lond., 1906,  
 p. 74, Pl. V, figs. 10, 10a (1906).

♂. Upperside, both wings dull soft violet with narrow brown termen, and a brown dash closing the cell in the primaries only. Underside, both wings pale whitish grey with darker spots and markings edged with white. Primaries with a blackish dash closing the cell followed by the postmedian series of six smallish, blackish spots which are not curved, the third spot is placed obliquely, the fifth shifted far inwards, the sixth almost double spot lying below it, a row of six subsagittate internervular brown dashes, a faint row of terminal semicircular spots. Secondaries with the usual basal spots obsolescent and very small, a fine lunular pale brown dash closing the cell, above which is a blackish spot below vein 8, the postmedian series of seven pale brownish irregular, the second spot shifted outwards and forming a curve with spots three, four, and five, the sixth shifted outwards, and the seventh inwards; area up to the submarginal lunular series whitish, a terminal row of very pale indefinite brownish spots, occasionally there is a very small black anal and subanal spot, but they may be absent.

♀. Upperside, both wings brown with the basal two-thirds up to vein 5 brightish sublustrous blue. Otherwise like the male, only the underside pattern may be somewhat accentuated.

Expanse, ♂ 42-44; ♀ 41 mm.

*Hab.* KAFFRARIA; NATAL.

Type in the Joicey collection.

Genitalia of the type general to the genus, not like the preceding species, which are unique in this group. Harpagines like two long narrow arms, somewhat wider at the base, highly curved, tapering off near the extremity into a slightly hooked apex; the arms are unusually long and strong considering the size of the species, and are somewhat sparingly furnished with strongish bristles. Anellus ample front edge gently curved; aedoeagus broadish, of but moderate length; cingulum of only moderate length; tegumen very narrow with cheeks of smallish dimensions, curved slightly forwards into a lobed extremity with long falcæ that have broad shoulder pieces; cheeks with longish bristles.

Androconia, tulip-shaped, broad, well arched distally with twelve or thirteen rows of reticulations, the reticulations being placed well apart vertically.

*Neochrysops ignota* Trimen. Plates XVI, fig. 6; XXVI, fig. 6.

*Lycaena ignota* Trimen, S. Afr. Butt., ii, p. 39 (1887).

*Cupido ignotus* Aurivillius, Rhop. Aethiop., p. 376 (1898).

*Catochrysops ignota* Butler, P.Z.S. Lond., p. 193 (1898).

*Lycaena ignota* Trimen. Trans. Ent. Soc. Lond., 1906, p. 75, Pl. V, fig. 11.

♂ and ♀. Uppers de, both wings pale brownish, with a darker line closing the cells and a fine dark termen with greyish fringes. Underside, both wings hoary grey with darker spots, often inclined to blackish, encircled with whitish. Primaries with a spot closing the cell, the postmedian series consisting of six spots, the second and third often placed obliquely to each other, curved outwards from the first spot, and in a slight curve with the fourth and fifth, the last of which is shifted somewhat inwards and the sixth slightly outwards; an indistinct row of submarginal internervular lunules. Secondaries with four small black spots near the base, three below each other, and one smaller close to the base on the inner margin, another black spot above the lunule closing the cell, the postmedian series composed of six spots, the upper five in a fairly deep curve, the sixth shifted slightly outwards, a submarginal row of deepish internervular lunules.

Expanse, 36-40 mm.

*Hab.* NATAL; TRANSVAAL.

Types in the Joicey collection.

Genitalia. Harpagines of the usual narrowish arm-like process, somewhat wider at the base, slightly concave on its lower margin, almost straight along the upper margin which is suddenly excised near the tip and bent downwards to form a strong smallish sickle-like apex, which is sharply dentate, the whole length is furnished with rather fine bristles; the anellus is small, subconical at its front margin but with an irregular outline; aedoeagus of moderate length and width; cingulum shorter and less narrow than usual; tegumen a very narrow raised ridge at the extreme rear; cheeks projected well forward bluntly wedge-shaped; falces deeply curved toward the base, where they are broad, but the apical two-thirds are very narrow. Cheeks with fine bristles.

Androconia, rather large, oblong, with the corners well-rounded off, ten rows of reticulations placed rather far apart, sculpturing large and definite.

*Neochrysope pephredo* Trimen. Plates XVI, fig. 7; XXVI, fig. 7.

*Lycaena pephredo* Trimen, S. Afr. Butt., iii, p. 389 (1899).

*Cupido pephredo* Aurivillius, Rhop. Aethiop., p. 378 (1898).

*Lycaena pephredo* Trimen, Trans. Ent. Soc. Lond., 1906, p. 75, Pl. V, fig. 12 (1906).

♂. Upperside, both wings brown of a warm tone with a slight bronzy tinge, termen finely dark brown, fringes whitish. Underside, both wings pale hoary brownish grey, with slightly darker markings edged with white. Primaries with a spot closing the cell, followed by the postmedian series composed of five or six spots, the second spot shifted outwards, the third and fourth in line with it, fifth shifted inwards, sixth rarely present—in the type male the three upper spots only are present, the submarginal row of internervular dashes indefinite. Secondaries, with the usual black basal spots obsolete in the type male, but generally present though very small, a fifth quite small black spot placed above the spot closing the cell; the postmedian series composed of six spots scarcely darker than the ground colour, the second shifted far outwards and in a line with the third, fourth and fifth, placed very obliquely inwards, sixth spot shifted outwards, a broad white band which is edged with a sharply crenulate, very irregular darkish brown margin, beyond which in a hoary marginal area is a series of terminal indefinite pale brownish spots. No tails.

Expanse, ♂ 40–42; ♀ 40 mm.

*Hab.* NATAL.

Types in the Joicey collection.

Genitalia. Harpagines of but moderate length, somewhat wider at the base, narrowish, concave at its lower margin, straight on the upper margin, gradually excised at a third from the apex into a broad serrated billhook termination; anellus large, excavated above in front, slightly curved laterally; aedoeagus short and very broad; cingulum of moderate length and narrow dimensions; tegumen, a very narrow raised ridge at the rear; cheeks projecting forwards, unequally wedge-shaped; falcis very broad, deeply curved, of moderate length. Harpagines sparsely furnished with strong bristles, cheeks of tegumen with fine bristles.

Androconia decidedly large, roughly oblong, with rather squarish corners distally, but tapering off to the footstalk proximally, eleven to twelve rows of reticulations placed well apart, sculpturing inclined to be obsolescent.

*Neochrysops methymna* Trimen. Plates XII, fig. 3; XVI, fig. 8; XXVI, fig. 8; XXXII, fig. 64.

*Lycaena methymna* Trimen, Trans. Ent. Soc. Lond., p. 280 (1862); *id. idem* S. Afr. Butt., ii, p. 27 (1887).

? *L. cetaeus* Trimen, Rhop. Afr. Austr., p. 248 (1866).

*Lycaena methymna* Holland, P. U.S. Nat. Mus., xviii, p. 238 (1895).

*Cupido methymna* Aurivillius, Rhop. Aethiop., p. 373 (1898).

♂ and ♀. Upperside, both wings uniform palish brown with tessellated white and brown fringes. In fresh specimens from Cape Colony, the tone is often warm reddish brown or bronzy brown, Natal specimens being altogether colder in colour. Underside, both wings greyish brown with slightly darker markings edged with white. Primaries with a fair-sized spot closing the cell; postmedian series near this spot composed of three or four increasing upper spots, the fourth, long, running into the cell spot, and followed by three lower spots, the first smallish immediately below the fourth, the second and third of the lower series shifted right inward below the cell spot; a more or less confluent submarginal series of dashes; the white edges are generally broad. Secondaries with the basal black spots very small and obsolescent, the one below the costa far out and larger; in the ♀ these are all sometimes prominent, the spot closing the cell is quite confluent with the postmedian series, which is composed of six confluent spots or dashes, the first one a slightly wedge-shaped dash, the second and third very long dashes, fourth very small, fifth shifted inwards, small, sixth a longish broad dash; this series is edged externally by a broad, very irregular white area, a submarginal series of darkish brown subsagittate marks followed by a row of slightly paler terminal spots, a trace of a subanal black spot.

Expanse, ♂ 33-38; ♀ 42-44 mm.

*Hab.* CAPE COLONY; KAFFIRLAND; NATAL; EAST AFRICA.

Types in the Joicey collection.

Genitalia of very slight dimensions. Harpagines very narrow, wider at the base, concave at the lower margin, convex on the upper margin, terminating in a hooked apex which is bluntly dentate; they are furnished with long, strong bristles; anellus with the front edge well curved; aedoeagus largish, slightly waived; cingulum very slight, longish, angled forwards; tegumen a narrow ridge, at the extreme rear; cheeks not large, curved forwards with

long bristles; falces rather large in comparison with the other parts.

Androconia, a long oval of regular outline, with eight rows, occasionally nine, of reticulations placed well apart; the sculpturing itself being also well separated vertically.

**Neochrysops puncticilia** Trimen. Plate XVI, fig. 9.

*Lycaena puncticilia* Trimen, Trans. Ent. Soc. Lond., p. 350 (1883); *id. idem* S. Afr. Butt., ii, p. 29, Pl. 8, fig. 4 (1887).

*Cupido puncticilia* Aurivillius, Rhop. Aethiop., p. 373 (1898).

♂ and ♀. Upperside, both wings uniform rufous brown, markless, with brown fringes narrowly tessellated with white. Underside, both wings uniformly brown with darker spots finely edged with white. Primaries with the usual spot closing the cell; the postmedian series composed of six spots of nearly equal width, which are longer than the breadth; the series is unbroken and is slightly waived; the sixth spot is a twin one, a row of terminal short narrow dashes broadly (comparatively) encircled with white and edged internally by a series of subsagittate brown marks with a fine paler internal margin. Secondaries, with the basal spots, usually black, dark brown, the postmedian series very irregular and confluent with the spot closing the cell, first spot oval, second and third very long and confluent with the two spots in the cell, fourth spot minute, fifth spot very small, shifted inwards, sixth spot very long, seventh much smaller; the terminal row precisely as in the primaries.

Expanse, ♂ 29-33; ♀ 35 mm.

*Hab.* CAPE COLONY.

Types in the Joicey collection.

Genitalia. Harpagines shortish, moderately broad at the base, tapering rapidly to the centre, where they are narrow, slightly widening to a quarter from the apex, where they are swollen and suddenly excised into a hooked apex, sparsely furnished with fine bristles; anellus with the front edge subconical and waived; aedoeagus of moderately large dimensions; cingulum fairly wide, shortish; tegumen, an exceedingly narrow ridge at the rear (the narrowest in the genus), with the cheeks extended forwards and downwards into good-sized lobes with fine long bristles; falces moderately large.

Androconia: in the single male specimen I have examined I cannot find any of these scales.

*Neochrysops leucon* Mabille. Plates XV, figs. 1, 1a;  
XXVI, fig. 1.

*Lycaena leucon* Mabille, Pet. Nouv. Ent., 2, p. 289 (1879,  
January); *id. idem* Hist. Mad. Lep., i, p. 226, Pl. 29,  
figs. 5 to 6a (1885-7).

*Castalius azureus* Butler, Ann. and Mag. N.H., iv, p. 230  
(1879, September).

*Cupido leucon* Aurivillius, Rhop. Aethiop., p. 377 (1898).

♂. Upperside, both wings brilliant metallic pale silvery blue, with narrow, black margins. Primaries with a black spot closing the cell and a broadish black apex. Secondaries with a smallish black subanal spot and a fairly stout tail. Underside, both wings pure white with large deep black spots. Primaries with a spot closing the cell; the postmedian series consisting of three very oblique spots with a fourth below them, vertically below which shifted well inwards is a fifth, rather longer spot, a series of six narrow subterminal dashes and a series of six half-round smallish terminal spots. Secondaries, with three large subbasal spots below each other, an inner marginal narrow one nearer the base, a rectangular one closing the cell; postmedian series irregular; cell spots large, two below the costa, the second shifted outwards, the third and fourth shifted far out, the fourth being wedge-shaped, fifth spot shifted well inwards, sixth long inwards again, seventh well outwards; subterminal and terminal series as in the primaries, with the addition of a subanal and anal spot with metallic scales and a little yellow above the subanal spot.

♀. Upperside. Primaries brown, the basal three-quarters to the upper margin of the cell white. Secondaries white, costa to vein 8 brownish, a subterminal row of internervular brown dashes followed by a terminal row of blackish spots, a subanal spot with yellow internal edging. Underside like the male except that in the primaries there is no postmedian series of spots, and the spots are not elongated in the secondaries.

Expanse, ♂ 20; ♀ 22-23 mm.

*Hab.* MADAGASCAR.

Types in Mabille's collection; Butler's type *azureus* in the Brit. Mus.

Genitalia with the harpagines of the longish arm-like shape wide at the base and tapering rapidly narrow, but widening slightly again beyond the middle, at a quarter from the apex narrowing and excised into a sickle-like tip; the sickle being armed with dentations on the exterior; the bristles are long and strong; the aedocagus is

of moderate length and width; cingulum less long than usual and narrow; tegumen a narrow ridge with projecting lobe-shaped cheeks well supplied with longish bristles; falces rather stout, but less long than usual.

Androconia large, of a longish oblong shape, slightly arched distally, tapering rapidly off into the longish attachment stalk proximally, ten, or more often eleven, rows of reticulations placed fairly closely together, whose sculpturing is moderately widely apart vertically.

The androconia are not plentiful.

*Neochrysope pampolis* H. H. Druce. Plates XVI, fig. 10; XXVI, fig. 10.

*Catochrysope pampolis* H. H. Druce, Trans. Ent. Soc. Lond., p. 258. Pl. 13, fig. 11 (1905); *id.* Neave, P.Z.S. Lond., p. 58 (1910).

♂. Upperside, both wings dull, rather transparent violaceous, with the veins showing up as fine dark lines. Primaries with a blackish dash closing the cell; termen finely dark. Secondaries with a subanal black marginal spot. Underside, both wings whitish with brown marks and spots. Primaries with a large spot closing the cell, followed by the postmedian series almost angled at the second spot, composed of five spots, the second squarish and shifted outwards, the third similar, shifted inwards, fourth well inwards, isolated, third inwards again and isolated, small; a series of six subreniform submarginal spots and a row of rather fine, more or less confluent marginal internervular dashes ending at vein 2. Secondaries with four dark spots near the base, not black, three below each other and one very small nearer the base on the inner margin, a fifth shifted right out over the postmedian series on vein 8. Postmedian series very irregular and confluent with the spot closing the cell, the second and third spots rather confluent, the second shifted further out than the third, fourth very small, shifted well inwards, fifth inwards again and smallish, sixth long, extending beyond the fifth on both sides; a submarginal crenulated series of lunules; a marginal narrow brown border; a subanal black spot with blue metallic scales, and a broad chrome-yellow lunular edging, with a trace of a similar small anal one.

♀. Upperside, both wings sooty brown with large violet blue areas and whitish postmedian series of internervular spots; cells with large spots at or near discocellulars. Secondaries with a row of marginal spots with white internal edging. Otherwise as in the male.

Expanse, ♂ 40-42; ♀ 42 mm.



Hab. N.W. RHODESIA and NORTHERN RHODESIA.  
Type in the Joicey collection.

Genitalia rather small, harpagines oval at the base, tapering rapidly into a narrow, arm-like process, not very long comparatively, highly concave at the lower margin and convex at the upper margin, tapering beyond the centre into a long hooked apex; they are moderately furnished with long bristles; anellus with front edge slightly waived, nearly erect; aedoeagus broad, of moderate length; cingulum of moderate width and dimensions; tegumen, a narrow raised ridge at the rear, with oblong cheeks projected far forward horizontally with longish bristles; falces long narrowish.

Androconia, large oval with a small central depression in the distal edge, and with ten or eleven rows of reticulations placed fairly well apart; the sculpturing being also well apart vertically.

Whether this species is distinct from *reichenowii* Dewitz I am unable to say, not having had the opportunity of seeing the type of the latter.

The figure shows only a narrow submarginal stripe to both wings, whereas Druce's insect has a broad submarginal and a narrow marginal stripe; it might well be the wet-season form, and *reichenowii* (from Angola) a dry-season form of the same species.

There remains, however, the possibility of the artist's delineation being in error, for it would be very easy to combine the two stripes into one, and the figure has an unnatural appearance to my eyes.

The synonymy had better, however, remain as it is at present, leaving the two species distinct for the time being.

#### *Neochrysops reichenowii* Dewitz.

*Plebeius reichenowii* Dewitz, Nov. Act. Cur., 41, 2, p. 203,  
Pl. 26, fig. 14 (1879).

*Cupido reichenowii* Aurivillius, Rhop. Aethiop., p. 372 (1898).

"Alae supra cano-violaceae maculis, vittisque paginae inferioris translucetibus parum; alae posticae ad caudam macula fulva nigropupillata. Alae subtus albidae maculis faseiisque maculatis fuseis et nigris; alae posticae ocellis duobus fulvis nigro pupillatis. Longitudo alae anticae, 0.017 m.

"Oberseite graublau. Flecken und Binden der Unterseite auf der Oberen wenig sichtbar. Am dem Schwänzchen der Hinterflügel ein ziegelrother, schwarz gekernte Fleck, ein zweiter dicht daneben  
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am Analwinkel nur angedentet. Saum und Vorderrand der Flügel schwärzlich Schwänzchen schwarz, mit einigen weissen Haaren. Fransen schwärzlich, mit weissen Haaren durchmischt.

“Unterseite weisslich. Au der Schlussader der Discoidalzelle der Vorderflügel ein schwarzbrauner Fleck; zwischen ihm und dem Saume verläuft eine aus viereckigen dunkelbraunen Flecken zusammengesetzte Querbinde, dicht neben dem Saume eine zweite bräunliche, gefleckte, unbestimmte, schmale Querbinde.—Die Hinterflügel tragen auf der Wurzelhälfte einige schwarze, zum Theil abgerundete Flecken, in der Mitte des Discus eine breite, winkelige und am Saume eine schmälere, braunliche Querbinde. Der ziegelrothe, schwarz gekernte Augenfleck am Schwänzchen zeigt sich unterseits noch etwas intensiver; ebensotritt der zweite am analwinkel gelegene, oberseits nur angedentete ziegelrothe Fleck unterseits deutlicher hervor und zeigt an seinem dem Flügelrande zugekehrten Theile eine schwärzliche Schattirung, bildet also unterseits bereits den Anfang zu einem Augenfleck. Adern der Flügel und Saumlinie unterseits bräunlich. Fransen wie oben.

“Kopf und Körper schwarz; Unterseite des letzteren, Beine und Palpen weiss behaart. Fühler Schwarz, an den Gelenken weiss geringelt.

“Nach einem Stück (♂).” [l.c.]

I have been unable to see this unique type, and have therefore given the original description in full, and also a reproduction of Dewitz's figure. Druce's *pampolis* is evidently an exceedingly close ally; above the colour is the same, whilst on the underside the latter has in addition the usual subterminal series of dashes which is only represented in *reichenowii* by the two marks at the anal angle of the primaries. In the secondaries, *pampolis* has the usual terminal row of spots, which is quite lacking in the original figure. Whether this is a vagary of the artist I am quite unable to say, but under any circumstances *pampolis* must, I think, be considered only a local race of Dewitz's species.

*Neochrysops asteris* Godart. Plates XII, fig. 6; XVI, fig. 12; XXVII, fig. 12.

*Polyommata asteris* Godart, Enc. Meth. H. N. Ent., 9, p. 657 (1824).

*Lycæna cælaeus* Trimen, Rhop. Afr. Austr., p. 247 (1866).

*Lycæna caffrariæ* Trimen, S. Afr., Butt., ii, p. 23 (1887).

*Cupido caffrariæ* Aurivillius, Rhop. Aethiop., p. 372 (1898).

*Catochrysops caffrariæ* Butler, P.Z.S., Lond., p. 843 (1898).

♂. Upperside, both wings brilliant pale violaceous lustrous blue with fine dark termen. Primaries with a linear dash closing the cell. Secondaries with a subanal black marginal spot with a trace of orange internal edging; fine blackish tails. Underside, both wings pale brownish grey with prominent coffee-brown markings broadly edged with white. Primaries with a reniform spot closing the cell; the postmedian series nearly erect, slightly irregular and composed of six broad spots, the lowest one being smallish; this series is broadly edged externally with white, and is directly followed by the submarginal row of six reniform spots, a marginal row of broadish dashes more or less confluent. Secondaries, with five small black spots near the base, four below each other, the two middle ones being shifted slightly inwards, and one on the inner margin nearer the base, a sixth larger black spot is in the middle of the costa below vein 8; the postmedian very irregular series is confluent with the spot closing the cell, and is composed of six spots or broad dashes, the second and third very long confluent with the cell spot, the fourth small narrow wedge-shaped, fifth larger shifted inwards, seventh irregular shifted slightly outwards; a broad band of white follows; a series of eight large irregular submarginal spots, the eighth very small on the inner margin between veins 1 and 1a; a marginal series of five smallish spots in a white area; a subanal black spot with blue metallic scales and a trace of a similar smaller anal one.

♀. Upperside, both wings brown with the basal two-thirds of the wing up to the upper margin of the cell bright violet blue—otherwise as in the male.

Expanse, ♂ 40–45; ♀ 45 mm.

*Hab.* CAPE COLONY; NATAL; KAFFIRLAND.

Type Paris Museum ??.

This is the species that Trimen described as *caffrariae*, as he considered another closely allied insect to be *asteris* of Godart. A reference, however, to that author's description shows quite definitely that Trimen misidentified Godart's species. I therefore transcribe the original description.

“137. *Polyommata Asteris*.

“*Polyommatus Asteris*.

“*Polialis* suprâ argenteo-violaceis, nitidis, limbo fusco: posticis subtus obscure cinereis, punctis sex bascos ocellaribus nigris, fasciâ disci crenatâ albâ ocellisque tribus anguli ani caeruleo-argenteis.

“ Il a un peu plus d'un fonce et demi d'envergure. Le dessus du mâle est d'un violet-argenteis luisant, avec le limbe postérieur brun et frangé de blanc. Les ailes supérieures ont vers le milieu une lunule noirâtre, et les inférieures offrent vers l'angle de l'anus un point noir surmonté d'une lunule fauve.

“ Le dessous des premières est d'un cendré-clair depuis la base jusqu'au-delà du milieu, avec un anneau central blanc; ensuite d'un cendré-obscur jusqu'au bout, avec quatre lignes blanches, transverses et ondulées.

“ Le dessous des secondes ailes est entièrement d'un cendré-obscur, et il présente les caractères qui voici: à la base sont six points noirs entourés de blanc et suivies d'une ligne blanche très-flexueuse; vient ensuite une bande blanche transverse, crénelée sur chaque côté, puis une série terminale d'annulets blancs, dont les trois plus intérieures renfermant chacun un oeil noir sablé de bleu-argenté. L'oeil qui fait face à la queue est surmonté, comme en dessus, d'une lunule fauve.

“ La femelle a le dessus plus pâle, avec la bordure plus large et marquetée de blanchâtre. Son dessous est comme chez le mâle Pris au Cap de Bonne-Esperance près de la montagne de la Table, par M. Jules Verreaux, préparateur de Zoologie au Muséum d'Histoire naturelle de Paris.”

It will at once be seen on reading the above description that the upperside is *shining*, this is referred to both in the Latin diagnosis and in the French detailed description; whilst in the latter it is said that there is a transverse band of white on the underside of the secondaries, which is not the case in the species Trimen identified as *asteris*; neither is it in the least lustrous on the upper surface. These two important points show conclusively that *caffrariae* Trimen must sink as a synonym to *asteris* Godart.

Genitalia small for the size of the insect; harpagines generally asymmetrical, of the usual arm-like form, with the base broader but tapering rapidly into a thin arm-like process, highly concave on the lower margin, nearly straight on the upper, terminating in a hooked apex with longish curved bristles; it will be seen from the figure that one harpago is shorter and broader than the other; anellus with the front edge well arched; aedoeagus broad, of only moderate length; cingulum fairly ample; tegumen a narrow raised ridge at the rear with large cheeks curved well forward and having longish bristles; falcis of moderate size.

Androconia very numerous, a very long oval with eleven rows of reticulations placed fairly closely together, the sculpturing of which is also close vertically.

*Neochrysops trimeni* sp. n. Plates XII, fig. 7; XVI, fig. 13; XXVII, fig. 13.

*Lycaena asteris* Trimen (*nce* Godart), S. Afr. Butt., ii, p. 24, Pl. 8, figs. 3, 3a (1887).

*Lycaena celaeus* Trimen, *in parte*, Rhop. Afr. Austr., p. 247 (1866).

*Cupido asteris* Aurivillius, Rhop. Aethiop., p. 372 (1898).

*Catochrysops asteris* Butler, P.Z.S. Lond., p. 192 (1898).

♂. Upperside, both wings dull violet bluish. Primaries with a broadish brown termen and a brown dash closing the cell. Secondaries with a marginal series of five or six brown spots, the subanal one being blackish edged internally with yellow, with short black tails. Underside, both wings darkish brown with darker spots and marks finely and definitely edged with white. Primaries with a large reniform spot closing the cell, followed closely by the postmedian series of seven spots, the first on the costa very small, the rest large and oval or suboval, the fourth elongated to touch the cell spot, the sixth shifted inwards, the seventh directly below it and sometimes succeeded internally by one or two very small dots (Trimen's figure shows an internal elongation of this spot), a submarginal series of six large reniform spots followed by a marginal series of five or six narrow oval marks. Secondaries with five dark brown spots near the base, four below each other, the two central ones smaller and oblique, the fifth nearer the base on the inner margin; a large subreniform spot closes the cell above, which on vein 8 is a large brown spot, usually black in other species, but brown in this; the postmedian series composed of six spots, the second, third and fourth confluent, the second and third long, touching the cell spot, the fifth shifted inwards, sixth outwards; a submarginal series of broad lunules, followed by a marginal series of spots, the subanal one black with metallic scales and edged with yellow.

♀. Upperside, both wings brown with the basal three-quarters brightish violet blue, otherwise as in the male.

Expanse, ♂ 41; ♀ 45-48 mm.

*Hab.* CAPE COLONY.

Types in the Joicey collection.

This is the species that has hitherto passed in all collections as *asteris* Godart.

Genitalia. Harpagines with oval base tapering into a long arm-like process concave on the lower margin and slightly convex at the upper, excised near the tip into a strong sickle-like apex; the bristles are long and strong; anellus highly arched at the front edge; aedoeagus short, of moderate width; cingulum narrow and longish; tegumen a narrow ridge at the rear with lobe-shaped cheeks produced well forward, having an abundance of long bristles; falces long, with the apical two-thirds narrow.

Androconia rather large, of a somewhat broad, oval shape, with the distal extremity slightly conical, ten or eleven rows of reticulations placed well apart, with the sculpturing fairly close vertically.

**Necchrysops grahami** Trimen. Plates XVI, fig. 14;  
XXVII, fig. 14.

*Lycaena grahami* Trimen, Trans. Ent. Soc. Lond., p. 123,  
Pl. 8, figs. 1, 2 (1893).

*Cupido grahami* Aurivillius, Rhop. Aethiop., p. 373 (1898).

♂. Upperside, both wings pale fairly bright (not shining) violet blue, with the cells closed by a fine brown line and the termen finely brown. Secondaries with a small black subanal spot, no tails. Underside, both wings pale dove grey, with darker spots and marks edged with white. Primaries with a spot closing the cell, beyond which is the slightly curved postmedian series of six large spots (a very minute one on the costa might make seven, but it is not always present) more or less confluent, but with their edges irregular, followed immediately by the submarginal row of mitre-shaped spots, the upper three being small; a trace of a terminal row of spots. Secondaries with five spots near the base, the upper one dark brown, not black, another dark brown one on the costa near the apex; postmedian series, confluent with the spot closing the cell, very irregular, the second spot is long and shifted outwards, the third and fourth are smaller and are confluent with the cell spot, fifth and sixth larger and irregular, the whole of this series is confluent and is followed by a broad whitish band, which edges internally the sublunular submarginal series that is barely separated by a trace of a fine pale line from the terminal row of largish spots; a small black subanal black spot with metallic scales.

♀. Upperside, both wings brown. Primaries with the violet-blue area restricted to just over half the area of the wing, with a largish spot closing the cell. Secondaries with only a few blue scales at the base, otherwise like the male.

Expanse, ♂ 40; ♀ 43 mm.

*Hab.* CAPE COLONY; NATAL.

Types in the Joicey collection.

Genitalia. Harpagines a narrow arm-like process, wider at the base, but tapering down rapidly, lower margin concave, upper margin convex, tip somewhat excised to form a slightly hooked apex; the bristles are long and strong but few in number; anellus with front edge almost erect; aedoeagus long and of a moderate width; cingulum long, bent forwards, less narrow than usual; tegumen a narrow ridge at the rear with small lobe-shaped cheeks produced well forward, having a fair supply of fine bristles; falces large and broadish.

Androconia of two shapes—one, apple-shaped with the diameter from side to side much longer than the line of axis, with about sixteen rows of reticulations fairly close together, with strongly marked sculpturing placed vertically moderately closely; the other almost tulip-shaped with twelve or thirteen rows of reticulations similarly placed and sculptured.

*Neochrysops ortygia* Trimen. Plates XVII, fig. 15;  
XXVII, fig. 15.

*Lycæna ortygia* Trimen, S. Afr. Butt., ii, p. 26 (1887).

*Lycæna asteris* Trimen (*in parte*), Trans. Ent. Soc. Lond.,  
p. 361 (1870).

*Cupido ortygia* Aurivillius, Rhop. Aethiop., p. 373 (1898).

*Lycæna ortygia* Trimen, Trans. Ent. Soc. Lond., 1906,  
p. 74, Pl. v, figs. 9, 9a (1906).

♂. Upperside, both wings pale bright violaceous blue, brighter than in *grahami*, with brown lunules closing the cells, fringes tessellated white and brown. Primaries with termen broadly brown. Secondaries with the termen having a row of six semi-lunular spots, the subanal one being black. Underside, both wings cinder brown, with darker spots definitely edged with white. Primaries with a spot closing the cell, followed by the postmedian row of seven spots slightly curved, of which the first below the costa is very small, the rest large, somewhat oval and rather irregular, the submarginal row composed of six reniform spots, the terminal row almost confluent. Secondaries with five prominent blackish spots near the base, four below each other, the two central ones oblique, the fifth near the base on the inner margin, a sixth blackish spot shifted right out nearer the apex; the postmedian series, touching the spot that closes the cell, composed of six oval spots, the second and third shifted outwards, the fourth well inwards, small, the fifth largish, inwards again, the third to the fifth touch the cell spot, sixth shifted outwards reniform and large; the submarginal row composed of lunular marks edged internally with

sagittate white marks, a terminal row of spots, a large black sub-anal spot with metallic blue scales and a fine edging of yellowish.

♀. Upperside, both wings brown. Primaries with the basal three-quarters bright violet up to half of the cell. Secondaries with the basal three-fifths bright violet up to vein 6. Otherwise like the male.

Expanse, ♂ 44; ♀ 50 mm.

*Hab.* CAPE COLONY; TRANSVAAL.

Type in the Joicey collection.

Genitalia. Harpagines shortish of the usual shape, tapering very rapidly from an almost oblong base, highly concave on the lower margin, almost straight along the upper margin, quite suddenly excised near the apex into a broad sickle-shaped extremity, long bristles mostly congregated at the base and apex; anellus with very slightly curved front edge; aedoeagus short and broad; cingulum bent forward, of moderate dimensions; tegumen a narrow ridge at the rear with cheeks, rather small, produced well forward, with numerous bristles; falces long and of moderate width.

Androconia oblong, more broadly curved distally than proximally, with nine or ten rows of reticulations placed far apart, with the sculpturing placed vertically far apart also.

*Neochrysops lerothodi* Trimen. Plate XVII, figs. 16, 16a.

*Lycaena lerothodi* Trimen, Trans. Ent. Soc. Lond., p. 242, Pl. 19, fig. 6 (1904).

♂ and ♀. Upperside, both wings uniformly brown with a slight brassy lustre in certain angles of light, fringes paler with a whitish patch at the apex of each wing. Underside paler than the upper, with darker spots palely encircled. Primaries with a spot closing the cell; the postmedian series consists of six spots, the upper five being in a slight curve, whilst the two uppermost spots of these five are smaller than the others, the sixth spot is shifted well outwards, the terminal and subterminal rows are very obscure, but the latter is edged internally by a row of narrow white internervular dashes. Secondaries with four blackish spots near the base, the fourth smaller one on the inner margin being nearer the base, a fifth black spot is beyond the centre below vein 8; the postmedian series is strongly curved at the second spot, the first spot being shifted well outwards of the black spot below vein 8, the second further out, the third slightly inwards, but larger and somewhat oval, the fourth small and inwards, the fifth well inwards, the sixth outwards, this row has the inner white edge accentuated, the very



indefinite submarginal row of spots is broadly edged internally with a series of similarly coloured brown crescents, which are broadly edged with a series of white sagittate marks, the dividing line between the submarginal row of brown spots and its internal brown edging is very difficult to discern; the brown termen is finely edged with white internally.

Expanse, 37 mm.

*Hab.* MACHACHA (Mahiti Range); BASUTOLAND (*Crawshay*).

Type in the British Museum.

*Genitalia.* Harpagines slightly oval at the base, of nearly even width from beyond the oval base, moderately long, curved with the apex suddenly excised into a short sickle-shaped termination, bristles are evenly distributed up to the origin of sickle; anellus evenly but slightly rounded on its front line; aedocagus shortish and decidedly broad; cingulum of moderately broad dimensions; tegumen a narrow collar with projecting cheeks, which are furnished with fine bristles; falces large and strong and deeply curved.

*Androconia.* This is one of the few species without any of these scales.

*Neochrysops gigantea* Trimen. Plate XIII, fig. 1; XVII, fig. 17; XXVII, fig. 17.

*Lycaena gigantea* Trimen, Trans. Ent. Soc. Lond., p. 4, Pl. i, figs. 2 and 3 (1898).

*Catochrysops hypoleucus* Butler, P.Z.S. Lond., p. 907, 1898.

*Cupido giganteus* Aurivillius, Rhop. Aethiop., p. 377 (1898).

*Catochrysops giganteus* Neave, P.Z.S. Lond., p. 58 (1910).

♂. Upperside delicate pinkish lilac blue with a black dash closing the cell of the primary, and fine black margins. At the anal angle is a trace of a twin spot, followed in the next interneural space by a dark marginal spot with traces of yellow edging above and very faint metallic scaling. The spots of the underside pattern show through. Fringes black with greyish extremities, and a black tail at the end of vein 2. Underside. Primaries white with faint yellowish tone in the basal area. A large reniform black spot closes the cell, beyond which is the postmedian series consisting of seven black spots, the three nearest the costa projected outwards, followed by a long black dash extending out nearly to the submarginal line, fifth and sixth spots inclined well inwards, seventh twin spot projected well outwards on the fold; beyond this series is the submarginal, well-marked suberemulate broadish black line,

margin finely black. Secondaries yellowish with black markings; a series of three or four black subbasal spots, the three are largish, but there is often a small one in the middle just below the cell; a large reniform spot closes the cell; an irregular and highly curved postmedian series, the first four projected well outwards, the fourth being elongated, fifth and sixth inwards, seventh outwards, eighth inwards; a submarginal somewhat crenulate black line interrupted between veins 2 and 3 by an orange crescent; anal spots as on upper surface except that they have an ample sprinkling of bright blue metallic scales.

♀. Upperside whitish grey fairly well but thinly covered with violet bluish scales; a very large spot closing the cell of the primaries, and a broadish brown submarginal band, crenulate in the secondaries, with whitish outer edging. Underside as in the ♂.

Expanse, ♂ 54-60; ♀ 58-64 mm.

*Hab.* MASHONALAND; VICTORIA NYANZA; NORTHERN RHODESIA.

This is the largest and one of the most beautiful of the group, and should be recognised at a glance.

Genitalia. With the harpagines long and narrow, somewhat concave on the lower margin, with the upper margin excurved beyond the middle, having irregular tubercles from which arise fairly strong spines; the apex is suddenly excavated into the shape of a strong, fairly large, sickle-shaped termination, having a few minute teeth at the basal section; the spines are not numerous, and are mostly gathered to the excurved portion. The cingulum is narrow for its whole length, but expands somewhat as it nears the tegumen, smallish, excavated almost throughout its dorsal edge, leaving only a narrow collar at its rear to connect its two cheeks; the falcies are of moderate width, curved, very long, with a small sharp hook at the extremities; the cheeks are plentifully supplied with fine hairs or spines; aedocagus of moderate length, rather shorter than long, and rather wide; vesica simple, without teeth or shagreening.

Androconia or battledore scales of only moderate size, oblong, with an occasional oval one here and there, very finely reticulated or shagreened, with twelve to fourteen (rarely fourteen) rows of reticulations.

*Neochrysope stormsi* Robbe. Plates XIII, fig. 2; XVII, fig. 18; XXVII, fig. 18.

*Lycaena stormsi* Robbe, Ann. Ent. Belge., p. 132 (1892).

*Cupido stormsi* Aurivillius, Rhop. Aethiop., p. 378, Pl. 6, fig. 5.

*Catochrysops stormsi* Neave, P.Z.S. Lond., p. 58 (1910).

Both sexes of this species are quite similar above to *giganteus* Trimen, except that they have no tails at the anal angle of the secondaries. On the underside of the primaries the spot in the postmedian series between veins 4 and 5 is round, not elongate, and is in line with the previous spots, whilst the submarginal dark line is crenulate, not almost straight as in Trimen's species. Secondaries: the spot in the postmedian series between veins 4 and 5 is not elongated out of line with its predecessors, and the crenulate submarginal dark line ceases at vein 4, whilst in *giganteus* it is intermittently continued to the inner margin. In size the two species are similar.

*Hab.* CONGO; TANGANYIKA; WEST LUALABA.

Genitalia with the harpagines rather narrower and the terminal sickle larger and slenderer than in *giganteus*; the aedoeagus is also rather slenderer, otherwise these organs are closely similar to that species.

Androconia variable, generally smaller than with the preceding species, occasionally oblong, sometimes oval, with about twelve rows of reticulations, the dots (reticulations) being well separated vertically.

**Neochrysops mashuna** Trimen. Plates XIII, figs. 3 and 4; XVIII, fig. 19; XXVII, fig. 19.

*Lycaena mashuna* Trimen, P.Z.S. Lond., p. 48 note (1894).

*Cupido mashuna* Aurivillius (as a syn. of *stormsi*), Rhop. Aethiop., p. 378 (1898).

♂. Both wings, upperside, slightly iridescent greyish lilac, with all the veins showing finely blackish and a rather prominent dark crescent closing each cell. The secondaries have a dark marginal spot in the interspace of veins 2 and 3, with traces of yellow around. Underside. Both wings creamy grey, sometimes dirty grey. Primary with a black spot edged with white closing the cell, followed by the postmedian series of similarly coloured spots, the three upper ones in a slight arc, the fourth shifted inwards, fifth inwards again, below which and slightly outwards is another small spot, sometimes single, sometimes double and sometimes absent; there is no dark marginal or submarginal row. Secondaries with a black basal spot edged with white below vein 1, three subbasal spots below

each other, a crescentic mark closing the cell, a series of eight postmedian spots, the first costal spot above that closing the cell, the second shifted far out, third shifted slightly outwards, fourth oblique, fifth and sixth each shifted well inwards, seventh lunular somewhat outwards, eighth on the inner margin well inwards—a black marginal spot in the interspace of veins 2 and 3 with a trace of yellow internal edging, a very faint trace of a whitish crenulate line, followed externally by a second less crenulate.

♀. Upperside. Both wings brownish. Primaries with cell and fold pale iridescent bluish, outer discal area somewhat whitish, with very broad posterior brown borders. Secondaries with the basal half of the wings iridescent bluish, the underside marks showing through prominently except the subbasal spots. Underside as in the male, but the ground-colour more pronounced in tone.

Expanse, ♂ 34–38; ♀ 42 mm.

*Hab.* MASHONALAND, 4200 to 4300 feet.

Type in the British Museum.

This is a very well-marked species, and it is rather incomprehensible how *Aurivillius* can have mixed it up with *stormsi*—a species more than twice its size and very different in many respects.

Genitalia with the harpagines similar to *giganteus*, but proportionately broader and except at the very base of fairly even width: the terminal sickle is smaller and shorter and slightly toothed. They have a fair supply of longish stiff bristles at the base on the lower edge, and a less supply on the upper surface in front of the hook; the shape of the anellus that is attached to the furca is more rounded on its front edge than either *giganteus* or *stormsi*, both of which are somewhat wedge-shaped; aedoeagus of moderate length, but of rather narrower width; the cingulum and the tegumen do not call for special remark, but the hook terminating the falces is quite small.

Androconia of fair size, variable, but the average are slightly tapered proximally to the broader distal end, which is moderately arched, whilst the distal end tapers rapidly into the footstalk; there are about eleven rows of fine reticulations placed rather closely together.

*Neochrysops rhodesensae*, sp. n. Plates XIII, fig. 5;  
XVIII, fig. 20; XXVII, fig. 20.

♂. Upperside, both wings pale greyish lavender colour, decidedly less bright than in *mashuna*, veins finely black, more prominent

than in the previous species; a dark rather indefinite lunule closes each cell. Secondaries with an indefinite dark marginal spot in the interspace of veins 2 and 3. Underside, both wings white with black spots, sufficiently white to almost obliterate the usual white edging to the black spots. Primaries with a good-sized reniform spot closing the cell, followed by a short postmedian series of four spots terminating between veins 3 and 4; the four spots are arranged in a slight curve, and the third from the costa is placed obliquely; a submarginal crenulate line, indefinite towards the apex. Secondaries with a basal spot on the inner margin, two subbasal spots below each other, a largish lunular spot closing the cell; an irregular postmedian series of eight spots, the first largish on the costa over the lunular cell spot, the second shifted far out, being one of three placed in an arc, fifth spot shifted well inwards, sixth inwards again, seventh largish, sublunular, well outwards, eighth far inwards on the inner margin—this might be mistaken for a third subbasal spot, but correctly it forms one of the postmedian series—a submarginal crenulate-yellowish line, faint towards the apex and edged internally with dark brown in the anal area, where the yellow is extended, a small dark marginal spot in the interspace of veins 2 and 3.

Expanse, 42 mm.

*Hab.* Fort Jamieson, N.E. RHODESIA (*Langshaw*).  
Type in my collection.

Genitalia with the harpagines slightly hollowed in the centre and with the sickle termination much more tapered from nearer the base, whilst the hook itself is also rather larger than in *mashuna*; the bristles in the fore part of the elaps are stronger, larger and more abundant than in that species; the shape of the anellus is more pointed; the falces somewhat heavier, and the aedeagus decidedly narrower than in Trimen's insect.

Androconia. Broadly oblong, tapering slightly, wider distally, rather small; the distal edge flatter than the proximal; eleven rows of reticulations, which are placed well apart; footstalk long.

*Neochrysops delicata*, sp. n. Plates XIII, figs. 6 and 7;  
XVIII, fig. 21; XXVII, fig. 21.

♂. Upperside. Both wings pale French grey with a delicate silvery lavender gloss, veins finely blackish, cell closed by a blackish crescent, prominent in the primaries, fine in the secondaries, no tails. Primaries with termen broadly and indefinitely brown, in which is a more or less distinct row of submarginal lunules. Undersurface. Primaries whitish tinged with yellow on the costa and

termen, with black spots whose white edging almost disappears in the ground-colour; a black sublunular spot closes the cell; the postmedian series consists of eight spots, two minute ones below the costa, very occasionally absent, the fourth spot shifted slightly out from the third, fifth oblique and extended outwards, sixth inwards, seventh inwards, quite small, eighth also small outwards; a submarginal series of yellowish lunules, the three lowest ones near the tornus edged internally with blackish, in other specimens the whole series is edged prominently with blackish internally. Secondaries whitish tinged with ochre yellow, variable in its depth of colour with white encircled black spots, a basal spot on the inner margin, two subbasal spots below each other; cell closed by a prominent sublunular spot; the postmedian series consists of eight spots, the first below the costal vein over the sublunular cell spot, second shifted right outwards, third and fourth well outwards, the latter placed obliquely, fifth well inwards, sixth inwards, seventh (sublunular) outwards, eighth well inwards; a submarginal row of yellowish lunules edged internally with blackish crescents, sometimes very faint as they approach the apex; a black marginal spot between veins 2 and 3 edged internally with yellowish or orange colour, above which is a marginal row of yellowish spots or dashes.

♀. Upperside. Primaries like the male, but surrounded by very broad brown margins. Secondaries almost entirely brownish, with the marginal series of spots showing through. Underside like the male. One specimen is entirely brown with only a trace of a pale discal area.

Expanse, ♂ 40; ♀ 39-42 mm.

*Hab.* NYASALAND, Mlanje; PORTUGUESE EAST AFRICA. Ruo and Kola Valleys 1700 to 2000 feet, November and December.

Types in the British Museum (*S. A. Neave*).

This species is very nearly related to the previous one, and that is nearly related to *mashuna* Trimen; but I have no doubt that they are all distinct, this being proved both by the genitalia and the androconia.

Genitalia with harpagines very similar to the previous species, but with the sickle termination less rugged, decidedly more abrupt, and the hook smaller; the bristles are less abundant and much finer. The aedocagus is rather shorter and not so narrow; the cingulum, tegumen and falces, are as is usual in this genus so similar that it is scarcely wise to attempt much differentiation.

Androconia broadly oblong, parallel laterally, distally and proximally almost similarly arched, perhaps slightly flatter distally;

foot stalk long and rather fine; ten to twelve rows of fine closely placed reticulations.

*Neochrysops peculiaris* Rogenhofer. Plates XIII, fig. 9; XVIII, fig. 22; XXVIII, fig. 22.

*Chrysophanus* (Hb. *Polyommatus* Auct.) *peculiaris* Rogenhofer in Baumann's Usambara, p. 331 (1891).

*Catochrysops perpulchra* Holland, Entomologist, Suppl., p. 90 (1892), *id.* Proc. U.S. Nat. Mus., p. 239, t. 7, fig. 7 (1895), *id.* Butler, P.Z.S. Lond., p. 828 (1897).

*Castalius hypoleucus* Butler, P.Z.S. Lond., p. 660 (1894), *id. l.c.*, p. 403 (1898).

*Lycuena exclusa* Trimen, P.Z.S. Lond., p. 47, Pl. vi, fig. 11 (1894).

*Catochrysops perpulchra* Holland, Butler, P.Z.S. Lond., p. 403 (1898).

*Catochrysops hypoleucus* Butler, Marshall, P.Z.S. Lond., p. 907 (1898).

♂. Upperside. Both wings pale brownish grey with a slight bronzy gloss, spots of underside showing more or less through (less rather than more). Primaries with a dark dash closing the cell. Fringes dark edged externally with white. Underside. Both wings greyish white, in very fresh specimens tinged partially with yellow, with black spots whose white edging is almost lost in the ground-colour. Primaries with a spot closing the cell; postmedian series consisting of six irregular spots, the third placed obliquely, generally but not always, fourth shifted inwards, fifth inwards, sixth very small, sometimes double, often absent; a submarginal greyish irregular line. Secondaries. A largish basal spot on the inner margin, two subbasal ones below each other, a lunular mark closing the cell; postmedian series consisting of eight spots, first below the costal vein, second shifted well outwards, third and fourth well outwards, fifth well inwards, sixth inwards, seventh lunular outwards, eighth well inwards on vein 1; a subbasal crenulate darkish line, sometimes almost absent, a small black spot at anal angle and between veins 2 and 3, with yellow above them and traces of metallic scales.

♀. Differs from the male in that on the upperside, the cell, the fold, and the greater part of the radial area are covered with pale blue superimposed scales; there is also a fairly prominent submarginal crenulate brown streak, which, however, is occasionally absent, and a spot or spots in the anal area with yellow above. The underside is like the male.

Expanse, ♂ 38-48, ♀ 46-52 mm.

*Hab.* Manicaland, Nyasa District, BRITISH EAST AFRICA; Usambara, Kilimanjaro, Victoria Nyanza; Mombasa, Rabai, Sagalla (*St. Aubyn Rogers*), Nairobi (*Tytler*), Fort Jamieson, N.E. RHODESIA (*Langshaw*); MASHONALAND.

Genitalia. Harpagines long with a suboval basal area tapering rapidly off quite narrowly in the centre, when it expands rapidly again into a short strong hook, the upper part of which is formed by a sudden and deep excision of the upper edge near the termination; the hook itself is toothed both externally and internally. Aedoeagus long and narrow compared with *giganteus*; the anellus part of the furca is cone-shaped; the falces are shorter than usual and moderately broad. The harpagines are well supplied with long stiff bristles at the base, but more sparingly in the middle and at the apex.

Androconia roundish, perhaps more correctly a broad oblong, as broad as long, with fourteen rows of closely-placed reticulations; the distal contour a broad arc, the proximal tapering off into the foot stalk like a pear. The size and shape are somewhat variable, some few scales are as nearly round as possible, and a few are a longer oblong.

*Neochrysope cupreus* Neave. Plates XIII, fig. 11; XVIII, fig. 23; XXVIII, fig. 23.

*Catochrysope cupreus* Neave, P.Z.S. Lond., p. 58, Pl. 2, figs. 9♂, 10♀ (1910).

♂. Upperside, both wings brown with a curious and beautiful coppery bronze lustre, the cells closed by a black dash, fringes black with grey extremities. Secondaries with two marginal black spots at the anal angle, edged internally with pale metallic blue. Underside. Primaries whitish with the costal and terminal areas yellowish; the spots are black with white edging. Cell closed by a lunule; postmedian series composed of six internervular spots, the third placed obliquely outwards, the fourth well inwards, fifth inwards often oblique, sixth composed of two black points, which in the female are united and form a fair-sized spot. Secondaries ochreous, a black basal spot on the inner margin, two subbasal spots below each other, the lower one as usual in the middle of the cell; a large sublunular spot closes the cell; postmedian series composed of eight spots, the first below the costal vein, and the second shifted outwards, largish, third and fourth shifted outwards, slightly fractured, fifth well inwards, sixth inwards, seventh angular spot slightly outwards, eighth well inwards on the



inner margin; anal spots as on the upperside, but edged in addition internally with sublustrous orange.

♀. Upper side. Both wings lustrous pale blue with very broad brown costal and terminal margins. Primaries with a prominent large black spot closing the cell; in the tornal area of the brown termen are three internervular whitish marks. Secondaries with a black spot closing the cell, followed by two or three black postmedian spots, above vein 4; terminal area with a series of brown spots in a whitish setting; anal spots as in the male. Underside as the male.

Expanse. ♂ 48-50; ♀ 52 mm.

*Hab.* Mansya River, and Chambezi Valley, N.E. RHODESIA, 4500 feet, November.

Types in the British Museum.

This species does not appear to have been recorded from any other source except Mr. Neave's original captures.

Genitalia. Harpignes shorter than usual, moderately broad and fairly even in width, apex terminating in an ample simple large hook, not so sharply excised as the preceding species into the sickle-shaped extremity, but rather in a billhook shape, with an abundant supply of long bristles, especially at the base; aedoeagus of moderate length and dimensions, and of even width. Tegumen small.

Androconia roughly pear-shaped, broad, not symmetrical: distal extremity more or less evenly arched, with seventeen to eighteen rows of reticulations in the widest part, the reticulations not placed too closely vertically.

*Necchrysops neavei*, sp. n. Plates XIII, figs. 8 and 10; XVIII, fig. 24; XXVIII, fig. 24.

♂. Upperside, both wings greyish brown (much darker than *peculiaris*) with prominent black lunular marks closing the cells. Fringes black with paler extremities. In the secondaries an inconspicuous blackish marginal spot between veins 2 and 3. No tails. Underside, both wings cream colour with veins somewhat ochreous, spots black encircled with white. Primaries with a large spot closing the cell; postmedian series consisting of six spots generally, but this is variable, the upper four in an even curve, fifth vertically below the fourth, the sixth a twin spot shifted outwards; an internervular submarginal row of sublunular marks; a trace of a marginal row of subochreous dashes. Secondaries with a prominent basal spot on the inner margin; a series of two or three

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subbasal spots below each other; the spot in the cell is sometimes a double spot, sometimes a single one, therefore I describe the number as two or three; a prominent lunule closes the cell; the postmedian series consists of eight spots of which the upper six form a deep curve, the seventh is shifted well outwards, and the eighth well inwards on vein I, so as to appear to be part of the series of subbasal spots; a series of sublunular submarginal marks, that between veins 2 and 3 being orange not black and forming the orange internal edging to the black marginal spot between those veins; it has a narrow exterior edging of metallic scales, a trace of a marginal series of ochreous grey dashes, these are more prominent in the females.

♀. Upperside, both wings brownish with the whole of the discal and three-quarters of the inner marginal areas whitish, having superimposed pale blue lustrous scales; the cells closed by prominent black spots, and in the secondaries there is a marginal row of spots with crenulate brown internal edging—otherwise like the male.

Expanse, ♂ 48-50; ♀ 48-52 mm.

*Hab.* PORTUGUESE EAST AFRICA, Foothills North of Mount Chipirone, 2500 feet, November and December; one ♀ Mlanje, NYASALAND, in January. All Neave's collecting.

Types in the British Museum, 2 ♂ and 4 ♀.

This species is very near in general facies to *peculiaris*, but is much darker above and can be recognised at once by the pattern of the underside, in which the postmedian series of spots never has the third spot oblique, it being always round and forming in line part of the curve already referred to.

I dedicate this species to the discoverer of it (Mr. S. A. Neave), whose travels in Africa have done so much to elucidate its insect fauna.

*Genitalia.* Harpagines simpler than any of those at present referred to; they are widest near the base, gently ascending in an outward arch and tapering off gradually into an upturned fine point, there being no excavated sickle-shaped extremity, with a plentiful supply of long stiff bristles on the upper side of the terminal half and a more limited supply at the base; the harpagines are rather shorter than usual; the aedocagus is of moderate length, fairly wide, with the anellus having the front edge less sharply excurved and with a broadly recessed collar; the tegumen is deeply excised fore and aft, leaving a high narrow saddle-like ridge; the cheeks being squarish, of moderate size, with large broadish falces

tapering off into quite narrow extremities having a finely hooked tip.

Androconia rounded, slightly truncated proximally to the stalk, often slightly flattened at the distal edge, with thirteen somewhat appressed rows of closely-placed, fair-sized reticulations.

***Neochrysops dollmani*, sp. n.** Plates XIII, fig. 12; XIX, fig. 25; XXVIII, fig. 25.

♂. Upperside, both wings pale greenish subdued electric blue, with the underside markings showing faintly through, and with very broad brown margins. Fringes brown with paler extremities. No tails. Primaries with a dark dash closing the cell. Secondaries with a marginal row of dark spots in the dark terminal area, a deep black spot between veins 2 and 3, edged externally with pale metallic blue and broadly internally with orange, a trace of a smaller double similar spot at the anal angle. Underside, both wings pale greyish with blackish spots encircled with white. Primaries with a dark dash closing the cell, followed by the postmedian series of six spots, the sixth very minute and may be a double one, the first five spots form a fairly even arc, with the fifth shifted slightly inwards; a marginal and submarginal row of six internervular pale brownish dashes separated from each other by a white stripe, interrupted at the veins. Secondaries with a basal spot on the inner margin; a series of three or four subbasal spots below each other, the spot just below the cell adjacent to the middle spot may be absent, when of course there will be three spots, not four; cell closed by a large angled spot, above which on the costa is another spot; the postmedian series consists of six prominent blackish spots, the first shifted well outwards, the second slightly outwards, the third slightly inwards, fourth small and compressed within the angle of veins 3 and 4, fifth well inwards, sixth almost reniform, slightly outwards; a marginal row of pale brownish spots set in white and bordered internally with a row of similar coloured lunules; a black spot, veins 2 and 3 with blue metallic scales and a largish internal edging of orange; similar small twin spots at the anal angle.

Expanse, 44 mm.

*Hab.* Solwezi, RHODESIA (*H. Dollman*).

Type in the British Museum, co-type in my collection.

Two males were brought home by Hereward Dollman, taken in December 1917. It is a beautiful and quite unmistakable species, and forms an almost perfect link between the black spotted and the brown spotted, or

typical section: the genitalia are allied to the former group, as would perhaps be expected. The female is as yet unknown.

Genitalia with the harpagines of moderate length and width, almost as wide at the sickle excavation as at the base; under edge concave, upper edge rugged and slightly uneven; excavation sudden, with a long hook at the apex. A plentiful supply of longish strong bristles both at the base and the front where the excavation occurs, only a few in between; furca of moderate size; anellus with the front edge nearly straight; aedeagus not very long, fairly stout; cingulum angled somewhat forwards; tegumen not large, with cheeks smaller than usual, not very deeply excised; falces shorter than in most species.

Androconia not variable oblong, straightish laterally, highly arched, almost to a central point distally, evenly and well arched proximally to a central attachment stalk, with nine or ten rows of reticulations placed well apart both horizontally and vertically.

I have dedicated this beautiful species to my dear friend Dollman, whose untimely and sad death so many of us deplore. A brilliant career in life, without doubt, lay before him, and one sincerely regrets its unusual brevity.

*Neochrysops intermedia* sp. n. Plates XII, figs. 4 and 5; XIX, fig. 26; XXVIII, fig. 26; XXXII, fig. 62.

♂. Upperside. Both wings golden brown with a subdued lilac lustre and narrow brown borders; the spots of the underside show more or less through. Fringes brown with paler extremities. Primaries with a fair-sized spot closing the cell. Secondaries with an indistinct marginal spot between veins 2 and 3. Underside. Both wings pale grey with blackish and brown markings encircled or edged with white. Primaries with the spot closing the cell and the postmedian series blackish; of the latter the three upper spots form a series in which the middle spot is projected somewhat outwards, the fourth spot is shifted well inwards, the fifth also well inwards, the sixth is a double spot placed obliquely outwards; a series of six submarginal broad internervular brown dashes near the postmedian series; a marginal, somewhat similar series of five dashes ending at vein 3. Secondaries with a basal black spot on the inner margin, followed by a series of three subbasal black spots, the lowest on vein 1; a black spot below the costal vein forming the first of the postmedian very irregular series of seven spots, all of which are brown except the first, second spot shifted

outwards, third spot outwards and much elongated, fourth slightly inwards and more elongated, fifth very small indeed and shifted well inwards, sixth small and shifted well inwards, seventh spot well outwards and moderately large; beyond this postmedian series is a row of subhastate white marks, a marginal row of brown spots, the fifth between veins 2 and 3 black, with blue metallic scales and having a bright orange iris, anal spot indistinct with blue metallic scales and orange internal edging, a fine tail from vein 2.

♀ Upperside, both wings with a large area of bright violet blue lustre. Secondaries with a double submarginal row of internervular whitish spots, and a largish deep black marginal spot between veins 2 and 3. Underside like the male, only more accentuated.

Expanse, ♂ 40-41; ♀ 43 mm.

*Hab.* PORTUGUESE EAST AFRICA, Ruo Valley, 2000 feet, December; Foothills Mount Chiperone, 2500 feet, end of November.

Types in the British Museum, 3♂ and 1♀ (*S. A. Neave*).

Genitalia similar in general form to *N. neavei*, but smaller. Harpagines with moderately broad subovate bases which rapidly taper to the extremities, the lower margins being deeply hollowed, whilst the upper margins somewhat beyond the base are nearly straight for about half the length, when they are suddenly depressed and recurved upwards, forming deeply hooked apices; there is a plentiful supply of long fine bristles on the lower margins of the base and on the upper margins, excepting the apices themselves; the furca is short; the anellus being pronounced and having an evenly curved front edge; aedoeagus of moderate length and broad; the tegumen is very highly excised from the front, with deep cheeks having straightish front margins; the falces are rather narrow, but as usual long and deeply curved; the front margins are fairly well supplied with longish bristles.

Androconia broadly oval; proximal margin often asymmetrical, owing to attachment stalk not being central; distal margin evenly and moderately highly arched; nine rows of reticulations placed well apart both vertically and horizontally.

There is a moderate amount of variation of the shape of the androconia in this species; generally they are broadly oval, as I have described, being almost, but shortly, oblong; several are quite ovate, several are asymmetrical distally; one is very abnormal, being over double the usual length, elliptic in shape, long and narrow, nearly straight on one

side, but well excurved on the other, with five rows of reticulations visible under the half of the scale, whilst over the remainder the rows are so closely appressed that it is not possible to count them accurately, but approximately there are six or seven. The reticulations are all placed very closely together vertically.

***Neochrysops pterou* sp. n.** (*πτέρων*, a feather).

♂. Upperside, both wings dull greyish lavender violet. Primaries with a dark dash closing the cell and a narrow indefinite dark border to the termen. Secondaries with the dark border quite narrow, but well defined. Underside, both wings pale grey with slightly darker spots encircled with white. Primaries with the usual spot closing the cell; the postmedian line is rather irregular and is composed of six spots, the third transversely placed and narrowly oval, the fourth is isolated, fifth shifted inwards, the sixth very slightly outwards and erect; a series of broad submarginal interneural dashes palely edged, followed by a similar series of darker interneural marginal marks. Secondaries rather darker than the primaries, with three very small subbasal blackish spots, followed halfway along the costa by a fourth somewhat larger. The cell is closed by an angled dash; the postmedian line is composed of six spots, the second shifted well out, the third somewhat oval and placed slightly transversely, the fourth is shifted inwards, the fifth further inwards, the sixth reniform and shifted outwards; a submarginal row of sagittate interneural dashes, broadly palely edged, followed by a marginal row of large dark spots; between veins 2 and 3 a black marginal spot with metallic blue external and yellow internal edging. No tails.

Expanse, 39 mm.

*Hab.* KAVIRONDO COUNTRY (*G. E. Feather*), January 30, 1918.

Type in my collection.

There is, unfortunately, but one specimen, but it is so distinctly different from other species that I have no hesitation in naming it, and I therefore dedicate it to its captor.

***Neochrysops letsea* Trimen.** Plates XII, fig. 16;  
XIX, fig. 28; XXVIII, fig. 28.

*Lycaena letsea* Trimen, Trans. Ent. Soc. Lond., p. 362.  
Pl. 6, figs. 3, 4 (1870); *id.* S. Afr. Butt., ii, p. 40 (1887).

*Cupido letsea* Aurivillius, Rhop. Aethiop., 380 (1898).

*Catochrysops fumosus* Butler, P.Z.S. Lond., p. 762 (1885).

See also James' Unknown Horn of Afr., p. 239 (1888).

♂ and ♀. Upperside, both wings pale brown with brown fringes edged with whitish; the primaries have the cell closed by an indistinct fine darker dash, and the secondaries have a subanal marginal black spot with yellow internal edging. No tails. Underside both wings pale brownish grey with darker markings edged with white. Primaries with a spot closing the cell; the postmedian series variable, in the male type it is composed of four spots, the first below the costa very minute, the other three almost in line; the submarginal row is absent, and there is only the faintest trace of the terminal series. Secondaries with four black spots near the base, three below each other, and one shifted basewards on the inner margin, a fifth black spot is below the costa near the apex; a curved mark closes the cell, and is followed by the postmedian series of six spots, the upper five being in an irregular curve, the second spot being shifted outwards, the third and fourth each slightly inwards, the fifth more inwards, the sixth outwards; a submarginal lunular series of internervular lunules edged internally with sub-sagittate white marks, a terminal series of spots entirely encircled with white, a subanal black spot with metallic scales edged internally with orange.

The number of spots in the postmedian series of the primaries varies; in some specimens the number is four, the lowest being situated above vein 3; in others there are five, the lowest being above vein 2; the size of these spots likewise differs.

*Hab.* CAPE COLONY (Basutoland); SOMALI; Hope Fountain, S. RHODESIA (*Neville Jones*).

Types in the Joicey collection. The type *fumosus* Butler, a synonym of this species, is in the British Museum.

Genitalia. Harpagines oval, tapering into a moderately long arm-like process, concave on its lower margin, straightish on its upper margin, excised near the tip into a short sickle-like apex; anellus with the front edge erect and waived; aedocagus of moderate size and width; cingulum bent deeply forward, of moderate width; tegumen a narrow ridge at the rear with smallish cheeks, lobe-shaped and drooping downwards with fine bristles; falces long but otherwise of moderate dimensions.

Androconia somewhat variable in size, of a long oblong shape, evenly curved distally, tapering to the footstalk proximally, with nine or ten rows of reticulations, whose sculpturing is placed far apart vertically.

This appears to be a rare species. Trimen's specimens appear to be but slightly spotted on the underside, whilst those in the British Museum (*fumosus*) are more heavily spotted. I have specimens from Hope Fountain, S. Rhodesia, which are also more heavily spotted, so I have figured Butler's type.

*Neochrysops cinerea*, sp. n. Plates XII, fig. 17; XIX, fig. 29; XXVIII, fig. 29.

♂. Upperside, both wings pale brownish grey, with the markings of the underside showing through; no spots at all on the upperside except the marginal blackish spot between veins 2 and 3; the narrow dash (almost always present) that closes the cell is in this species only visible as a mark of the underside pattern that shows through. Underside, both wings pale grey, with markings (except the usual black ones on the secondaries) scarcely paler than the ground-colour, encircled with white. Primaries with the spot closing the cell followed by the postmedian series of six almost round spots, of which the sixth is a double one, the upper four spots form a slight arc, the fifth is shifted inwards, and the sixth double one outwards; a submarginal series of six subhastate marks. Secondaries with the black spots very small, the basal one on the inner margin minute, three subbasal ones below each other, and one just below the costal vein; the postmedian series consists of six spots, the first well away from the costal black spot, the second to the fourth in a slight curve touching each other and inclined well inwards, sixth spot shifted outwards; a row of marginal spots with whitish edging bordered internally with a row of lunular internervular marks; a black spot between veins 2 and 3, with metallic scales and an internal edging of yellowish, which is more prominent on the co-type. No tails.

Expanse, 37-40 mm.

*Hab.* Solwezi, N.W. RHODESIA (*Dollman*), November.

Type in the British Museum; co-type in my collection.

Two males of this interesting species were brought home by Dollman.

Genitalia with the harpagines of moderate length, broadish at the base and somewhat ovate, but rapidly reduced, with the lower edge concave, the top edge nearly straight and suddenly excised at a quarter from the apex into a broad sickle-shaped extremity; a fair supply of long bristles at the base and an abundant supply before the excision, and at the hinder part of the sickle; the furca and anellus



call for no remark; aedocagus of moderate length, narrow; cingulum angled forward; tegumen small, with small cheeks, which have fairly long and strong falces.

Androconia numerous, large, in shape a long oblong, straightish laterally: the distal edge but slightly curved, generally asymmetrical proximally. They are unusually large and very distinctive.

*Neochrysops skotios* H. H. Druce. Plates XIX, fig. 30; XXVIII, fig. 30; XXXII, fig. 63.

*Catochrysops skotios* H. H. Druce, Trans. Ent. Soc. Lond., p. 259, Pl. xiii, fig. 12 (1905); *id.* Neave, P.Z.S. Lond. (1910), p. 57.

♂. Upperside, both wings uniform warm slightly lustrous brown, with no markings whatever except the least trace of the underside spots closing the cells showing through. Underside, both wings greyish brown, with spots scarcely darker than the ground-colour, encircled with creamy white, and the usual black spots on the secondaries. Primaries, a spot closing the cell, followed by the post-median series of six spots, the first four touching each other nearly erect, the fifth and sixth shifted somewhat inwards; a marginal row of internervular dashes edged internally with fine creamy subhastate marks, beyond which is a broader row of internervular dashes also edged internally with a series of subhastate creamy marks. Secondaries with a small basal black spot on the inner margin; three sub-basal spots below each other and a fourth shifted outwards below the costal vein; a brown spot closes the cell beyond which is the post-median series of six spots, the first shifted well outwards from the black costal spot, the second to the fifth form a slightly curved series, all touching each other and inclined well inwards, the second of these four spots is placed obliquely generally, sixth spot shifted somewhat outwards; a marginal row of spots and a submarginal row of subhastate dashes each edged internally with rather narrow subhastate internervular creamy marks; a black marginal spot between veins 2 and 3 with blue metallic scales and orange edging. No tails.

Expanse, ♂ 40-42; ♀ 44 mm.

*Hab.* N.W. RHODESIA.

Type in the Joicey collection; other specimens in the British Museum, Oxford Museum, and in my collection.

Genitalia with the harpagines longish, with base somewhat ovate, rapidly reducing to a narrow arm, concave on the lower edge, straightish on the upper edge; at a full third from the apex curved downwards (not excised) and shortly recurved into a sort of narrow billhook

extremity; some longish bristles at the base and a fair number on the upper margin around the curved section; anellus with a waved front edge; aedoeagus shortish, rather broad; egingulum long, strongly angled forwards over the harpagines; tegumen small, with small checks, and long rather narrow falces, which have the extremities sharply curved. The bristles on the cheeks are very numerous, fine and longish.

Androconia very numerous, pomegranate-shaped, but not quite so flat distally, with eleven rows, well apart, of reticulations placed close together vertically; the shape is very fairly uniform and distinctive.

**Neochrysops plebeja** Butler. Plates XII, fig. 18; XIX, fig. 31; XXVIII, fig. 31.

*Catochrysops plebeia* Butler, P.Z.S. Lond., p. 192, Pl. 20, fig. 2 (1898).

*Lycaena parsimon* Trimen (*in parte*), S. Afr. Butt., ii, p. 18 (1887).

*Cupido celaeus* Aurivillius, Rhop. Aethiop., p. 375 (1898) *in parte*.

♂. Upperside, both wings pale greyish brown, with a few bluish scales at the extreme base; the scales are very thin in substance giving the wings a very slightly diaphanous appearance: the underside pattern shows through more or less. Fringes brown with paler extremities. Primaries with an indistinct dash closing the cell. Secondaries with a black marginal spot between veins 2 and 3 with a trace of blue scales and an orange internal edging. Underside, both wings pale brownish grey, more or less warm in tone, with slightly darker spots and marks broadly edged with white. Primaries with the cell closed as usual; the postmedian series is composed of six spots, sometimes five, which are more or less confluent, the upper three nearly in alignment, the middle one being broken very slightly outwards, the fourth is shifted inwards, the fifth inwards also, and the sixth (sometimes absent) slightly outwards and generally is a small double spot; a marginal row of six lunular spots, preceded by a broad crenulate stripe edged with white on each side. Secondaries with the basal black spot on the inner margin, four black sub-basal spots below each other, the two middle ones being adjacent; a black spot further out below the costal vein; a curved dash closes the cell; the postmedian series consists of six spots or perhaps I should say seven, as there is a fairly visible trace of a spot above the first oblique oval spot which might be numbered 1a—it lies between veins 7 and 8, below the apex of the wing-spots

two to four are irregularly in alignment, the fifth spot shifted well inwards, sixth outwards; a marginal row of semilunular spots, preceded by a crenulate stripe, which is edged on both sides with white, the inner edging being broad and sagittate; a black marginal spot between veins 2 and 3 with metallic-blue scales and a broad orange internal edging; a fine tail from vein 2.

Expanse, ♂ 48; ♀ 48-50 mm.

*Hab.* NATAL; MASHONALAND; PONDOLAND; RHODESIA, South, North-east and West; GAZALAND; TRANSVAAL.

Type in the British Museum.

Trimen speaks of the insect he calls *parsimon* (*l.c.*) as having tails in both sexes, it is therefore not *parsimon* Fabricius. No doubt he had this species before him.

Genitalia with the harpagines fairly wide at the base, tapering somewhat rapidly into a narrowish arm, concave at its lower margin, nearly straight at the upper margin, suddenly recessed downwards near the tip and recurved into a fair-sized hook at the extremity; the harpagines are longer and the hook larger than is the case with the next species, *N. parsimon*; anellus with the front edge cone-shaped; aedoeagus fairly long to moderately broad; cingulum longish, narrow; tegumen small with small cheeks; falces moderately long. Bristles on the harpagines moderately strong and numerous at the base, less numerous in the apical area.

Androconia slightly variable, broadly oblong, slightly longer than broad. Evenly and slightly arched distally, more strongly proximally, with twelve fairly closely-placed rows of reticulations.

*Neochrysops parsimon* Fabricius. Plates XII, fig. 19; XX, fig. 32; XXIX, fig. 32.

*Papilio Plebeius ruralis parsimon* Fabricius, Syst. Ent., p. 526 (1775); *id. idem* Mantiss Class, vi, p. 77 (1787); *id. idem* Ent. Syst., iii, p. 303 (1793).

*Papilio celaeus* Cramer, Pap. Exot., iv, p. 177, Pl. 379, figs. *k,k* (1782).

*Lycæna celaeus* Trimen *var.*, Rhop. Afr. Austr., p. 247 (1866).

*Cupido celaeus* Aurivillius (*in parte*) Rhop. Athiop., p. 375 (1898).

*Catochrysops celaeus* Neave, P.Z.S. Lond., p. 58 (1910).

♂. Upperside, both wings brown, decidedly more solid in texture than in *plebeia*, so that the underside pattern does not show through; the only mark visible is an indefinite blackish marginal spot on the

secondaries between veins 2 and 3, with a faint trace of yellow above it. In some very fresh specimens from certain localities the colour approaches very closely to *plebeia*; this may, however, be only due to the very fresh condition of the specimens. Underside, both wings brown or brownish grey with the usual spots, whose white edging is decidedly narrower than in *plebeia*; the spots of the postmedian series are definitely encircled spots adjacent together, but not confluent. Primaries with the usual spot closing the cell; the postmedian series consisting of six spots, the upper four almost in a line, the fifth shifted somewhat inwards, and the sixth sometimes double, vertical below the outer edge of the fifth; a marginal row of internervular dashes, preceded by a row of six sublunular marks edged on each side with white. Secondaries with a black basal spot on the inner margin, four subbasal ones below each other, the central two adjacent, and another black spot further out below the costal vein; the postmedian series composed of six spots, the first oval, the second to the fourth shifted slightly outwards, all being in line and inclined inwards, the fifth shifted inwards, sixth slightly outwards; a marginal row of semilunular marks preceded by a row of sublunular broadish dashes edged on each side with white; a black marginal spot between veins 2 and 3, with blue metallic scales and broad orange internal edging. No tails.

♂. Both wings, upperside, brownish with the whole of the area up to the subterminal brown stripe and up to the costal vein inclined to whitish suffused entirely with sublustrous violet blue, the blue scaling at the base being much denser and so doing away with the whitish appearance. Primaries with a large and prominent spot closing the cell, a broad brown subterminal stripe separated from the terminal broad stripe by internervular pale spots. Secondaries with the blue suffusion up to vein 7 instead of the costal as in the primaries; the subterminal stripe is lunular and the terminal brown-spotted band is somewhat indefinitely edged with whitish.

Expanse, ♂ 44; ♀ 46-52 mm.

Type lost, one female in the Banks collection, British Museum, but not referred to by Fabricius.

*Hab.* SIERRA LEONE; LAGOS; ANGOLA, COAST OF GUINEA; ENTEBBE (*F. J. Jackson*); WEST UGANDA (*Neave*); NAIROBI; VICTORIA NYANZA (*Oxford Mus.*); N.E. RHODESIA (*A. A. Langshaw*), KIBORIANI, KANGWA KIBARA (*Trimen*).

There has been so much confusion with this species that it has been necessary to go back over all the old literature traceable.

Fabricius published in 1775 his *Systema Entomologiae*, and on page 526 described *parsimon* as follows :—

“ *Parsimon*. 349. P.P.R. alis integris, fuscis, subtus cinereis, albo undatis; posticis basi punctis ocellaribus nigris, apice ocello.

“ Habitat in Sierra Leon Africae. Mus. Banks.

“ Major. Antennae albo-annulatae, clava fulva, Alae omnes supra fuscae, immacolatae, subtus cinereae, macula media reniformi fasciisque posticis lunularibus albidis: posticae ad basin punctis quinque atris, annulo albo cinctis et ad angulum ani ocellus-ater, annulo antice rufo, postice aureo cinctus.

“ Variat supra alis anticis macula media nigra et posticis lunulis apicis albis maculaque rufa.”

In 1787 he (Fabricius) merely catalogues the species in his *Mantissa* on p. 77, Clas. vi, giving only the first brief description word for word, except that he ends it with “apiceque ocello” instead of “apice ocello”; but in 1793 (*Entomologia Systematica*) he repeats his description in full on p. 303, with no further amendments.

From this three points come out prominently: first that the species is without tails, secondly that the upperside is brown, and thirdly that the underside has five black spots at the base of the secondaries. This description was therefore not taken from the female (a very palpable female) in the Banks collection at the British Museum, for that specimen has such a strong and largish suffusion of blue on the upperside that it would have been quite impossible not to notice, whilst it has four basal black spots, not five. This specimen cannot therefore be taken for a type. In 1782, however, Stoll published Vol. iv. of *Cramers' Papilio Exotiques*, in which he described and figured at p. 177 and Plate 379, figs. *k,k*, his *Papilio cetaeus* from the coast of Guinea.

Hitherto *parsimon* has been identified either as a blue or brown insect either with tails or without, and by some authors as mere aberrations of one species. My researches with the genitalia prove, I think, that the tailed and tailless insects are two species, not one, and also that the blue and the brown butterflies are likewise two species not one, and it remains for us to determine which is the insect that Fabricius described. Aurivillius is evidently unable to throw any light on the matter as intimated in his *Rhopalocera Aethiopica*, so that I am thrown entirely on my own investigations, and I have come to the definite conclusion

that Fabricius and Stoll described the same species, and in this I am glad to follow the lead given by Trimen in both his works (*l.c.*), for though he confused the species and thought that *parsimon* was blue, yet he recognised that the descriptions of the two early authors referred to the same species, which no doubt made him (Trimen) consider, in his earlier work, that the brown species was a variety of the blue, but he never realised that true *parsimon* had no tails. I come therefore to the conclusion that *parsimon* and *celaeus* are brown, and that they have five black spots at the base of the secondaries, and that neither has a tail, and I find that in recently arranged collections the species has been named *celaeus*, though in many the blue and brown have been mixed together. Stoll's name will therefore have to sink to *parsimon* Fabricius, who has seven years priority; therefore the blue species, commonly called *parsimon*, is left without a name, for which I suggest *synchrematiza* (Greek *συνχρηματίζω*, mentioned together with).

Genitalia with harpagines subovate at the base, tapering to a moderately even narrower arm, concave at its lower margin, but curved downwards suddenly near the tip and shortly recurved into a small hook at the apex; the bristles are fine and are not very abundant; anellus bluntly cone-shaped; aedeagus of moderate length and width; tegumen smallish, very deeply excised, with fair-sized cheeks; falces strong of moderate length.

Androconia slightly variable, but the general shape is somewhat fan-shaped, broader than long, very slightly expanding distally, with the distal edge moderately arched, with eleven rows of reticulations placed fairly closely together vertically.

*Neochrysops victoriae* Karsch. Plates XII, fig. 20; XX, fig. 33.

*Lycæna victoriae* Karsch, Ent. Nachr., 21, p. 300 (1895).

*Cupido victoriae* Aurivillius, Rhop. Ethiop., p. 374 (1898).

*Catochrysops acholi* Bethune-Baker, Ann. and Mag. N. H., xvii, p. 107 (1906).

*Cupido victoriae* Druce, Illust. Afr. Lye., p. 19, Pl. viii, figs. 2, 2a (1910).

♂. Upperside, both wings uniform darkish brown, quite markless, with the one exception that in the secondaries between veins 2 and 3 there is a black marginal spot broadly edged internally with deep yellow. No tails. Underside, both wings ashen grey with spots

scarcely darker than the ground, encircled with white. Primaries with a semilunular spot closing the cell; the postmedian series consisting of six spots usually disconnected, second and third spots just touching each other and shifted slightly outwards, fourth spot somewhat inwards, fifth more inwards, sixth vertical below the fifth; a series of submarginal subsagittate internervular marks and a marginal series of internervular dashes each edged with whitish. Secondaries with the usual black spots, one basal one in inner margin, three sub-basal below each other, one costal below vein 8 near its termination; postmedian series consisting of six spots, the first oval, the second to the fourth touching each other and fairly in line, all shifted outwards from the first, fifth shifted inwards, sixth shifted outwards obliquely; a marginal row of four subsagittate spots preceded by a row of sagittate internervular marks edged with white, the inner edging being sagittate; a black marginal spot between veins 2 and 3 with metallic blue scales and broad internal yellow edging.

♀. Upperside, both wings whitish with lustrous blue superimposed scales. Primaries with costa broadly brown, and termen very broadly brown. Secondaries with a postmedian series of spots, varying in size and number; a marginal row of large spots with sagittate white internal edging preceded by a brown subsagittate series of internervular marks; subanal spot as in the male. Underside as in the male, but paler and with broader white edging.

Expanse, ♂ 48; ♀ 48-52 mm.

*Hab.* BRITISH EAST AFRICA (Kitoto); UGANDA PROTECTORATE (Patigo).

Types: ♀ in the Imperial Zoological Museum, Berlin; ♂ in my collection (4 ♂♂ and 4 ♀♀); other specimens in the British Museum from the Nandi Plateau (*Neave*).

Karsch described the female from Kitoto (Ugowe Bay), and subsequently having a small series of both sexes I described the male from the Acholi country, having failed to recognise the previous description of the female. The species is apparently local and uncommon. The figure represents my ♂ type.

Genitalia with harpagines long, broadish at the base, narrowing rapidly and terminating in a sub-sickle-shaped apex; the whole clasp is covered with long strong bristles, those at the apex being shorter and finer; anellus with the front apex bluntly cone-shaped; aedocagus broad, of moderate length, raised into a knob near extremity on its upper edge, from whence it is somewhat excised to the tip; vesica very fine with practically no sculpturing; cingulum long and very narrow; tegumen but little excised (this is apparently

variable), with very broad, well-rounded, ample cheeks, with the falces long, strong, and well curved; the cheeks have a fair supply of bristles at the margins.

Androconia absent. This is one of the very few species of the genus that has no androconia.

**Neochrysops quassi** Karsch. Plates XII, fig. 21; XX, fig. 34; XXIX, fig. 34.

*Lycaena quassi* Karsch, Ent. Nachr., 21, p. 305 (1895).

*Lycaena negus*, B. E. Zeit., 38, p. 226 (1893).

*Catochrysops phasma* Butler, Ann. and Mag. N. H., vii, p. 290 (1901).

♂. Upperside, both wings dull violet with broad blackish posterior margins, the primaries with a blackish dash closing the cell. Secondaries with a deep black spot on the termen between veins 2 and 3, which is edged above with orange. Underside, both wings brownish cream-colour, with darker brown spots and marks edged with white. Primaries with the usual dash closing the cell; a postmedian, almost straight row of seven spots, of which the first below the costa is the smallest; a subterminal row of sublunular marks, followed by the terminal row of broadish internervular dashes; termen finely brown. Secondaries with a black basal spot on the inner margin, followed by three sub-basal black spots with a fourth shifted further out below the costal vein; a pale brown crescent closes the cell; the postmedian row consists of six spots, the first is shifted outwards from and below the fourth black spot, the second further out, the third and fourth slightly inwards, fifth more inwards, the sixth is reniform and is shifted somewhat outwards; a subterminal lunular row of internervular dashes edged internally broadly with white subsagittate marks; a terminal row of spots with the usual subanal black spot, with a fine blue metallic external edge and a broad internal orange edge; termen finely brown. At the extremity of vein 2 is a fine tail.

♀. Upperside, both wings brown, with a lustrous violet blue suffusion over the basal two-thirds of the wings, and a tendency to whitish in the postmedian area. Primaries with a postmedian row of dark spots encircled with white—this character is variable, I have one specimen before me with no spot at all, one with only a trace of them, another with one definite spot, two specimens with two spots, and others up to five, but the complete absence of them is rare—a trace of a subterminal row of largish brown spots edged very finely with white externally but broadly internally. Secondaries with the spot closing the cell and the postmedian curved row of spots which is



apparently always present, the subterminal row consists of lunules, otherwise it is as in the primaries. In other particulars the female is like the male both on its upper- and underside.

Expanse, ♂ 44-46; ♀ 45-48 mm.

*Hab.* ASHANTI; LAGOS (B. M.); AGEGE (*Farquharson*), Oxford Museum.

Type in the Berlin Museum.

Butler compared this species, which he named *phasma*, with both *celaeus* and *patricia*; the genitalia show it to be more nearly related to the former than the latter, whilst the pattern as well as the genitalia show that it is also nearly related to *victoriae*, the pattern of the females having obvious and rather unusual similarities. I should rather liken it to a tailed form of *synchrematiza* B-B., with which it is in colour and pattern somewhat more similar; the colour of the male upperside is almost exactly alike. The prehensores are, however, different.

*Genitalia.* Harpazines of moderate length, strongly concave on the lower margin, broader at the base, but gradually diminishing in width until a third from the apex, where it is suddenly excised deeply and terminates in a deepish sickle apex; the whole harpago is generally furnished with a plentiful supply of longish bristles, which at the base are on the lower margin, but are on the upper margin at the apex. Anellus with cone-shaped front edge; aedoeagus not very stout and shortish; cingulum narrow, of a fair length; tegumen merely a narrow collar; cheeks of small dimensions, with the front margin nearly vertical and straight; falces long, decidedly narrow, and terminating in a fine well-curved hook; cheeks with plenty of longish strong bristles.

Androconia somewhat variable, the general form is a long oval which expands slightly distally, which extremity is well and evenly curved; the proximal extremity is somewhat asymmetrically curved, the footstalk being very frequently not central; it is not infrequent for them to assume a shape approaching the spherical when the proximal end is symmetrical and the footstalk central. There are generally twelve rows of reticulations, placed well apart. There are other variations whilst a few scales are narrowly elliptical.

*Neochrysops synchrematiza* nom. nov. Plates XIV, fig. 1; XX, fig. 35; XXIX, fig. 35.

*Lycæna parsimon* anctorem (*in parte*).

*Cupido parsimon* Aurivillius, (?) Rhop. Aethiop., p. 375 (1898).

♂. Upperside, both wings dull violet blue with the nervules showing finely black; cells closed by a fine blackish dash, which broadens after the specimens have flown much; a variable dark subanal marginal spot, sometimes inconspicuous, sometimes prominent. No tails. Undersurface brownish grey, with spots scarcely darker than the ground-colour, edged broadly with white. Primaries with a large irregular spot closing the cell; postmedian series composed of six spots, second and third irregular, fifth shifted inwards slightly obliquely, sixth inclined to be reniform; a submarginal lunulated series with white sagittate inner edging, and a marginal row of six spots. Secondaries with four black spots near the base and one shifted right out above the postmedian series, three below each other and one close to the base on the inner margin; spot closing the cell large; postmedian series composed of six spots, the second shifted well outwards, third inwards, fourth smaller inwards, fifth more inwards, and the sixth shifted outwards; submarginal lunular series edged with white sagittate marks; a marginal row of spots, the subanal one black with a few metallic blue scales on its outer margin and a fair-sized orange spot on its inner edge.

♀. Both wings brown. The primaries suffused with lustrous blue scales over the median and postmedian areas; a trace of a submarginal series of spots. Secondaries with the blue almost confined to the cell, and a distinct marginal row of spots, otherwise like the male.

Expanse, ♂ 42-46; ♀ 50-53 mm.

*Hab.* SIERRA LEONE.

Types in my collection.

*Genitalia.* Harpagines, long narrow arm-like processes, rather wider at the base and slightly tapering towards the apex, concave on the lower margin, slightly convex on the upper margin, apex suddenly excised to form a strong broad hooked termination; the whole arm is plentifully furnished with long strongish bristles; anellus with front margin sub-cone-shaped and slightly asymmetrical; aedeagus broad, rather short; cingulum long, of slight dimensions, but strengthened by the central portion of each side being somewhat excised, so as to form an internal sort of collar; tegumen raised into a narrow high ridge at the rear, almost wholly excavated, so that the cheeks stand out forwards and are somewhat wedge-shaped; the falces are longish and of moderate dimensions; the cheeks are well supplied with longish bristles.

Androconia moderate size, oblong, with distal apex excurved asymmetrically as a rule, tapering rapidly distally to the somewhat

large footstalk, with twelve rows of reticulations placed well apart, but the vertical reticulations are generally rather close together.

This species is decidedly rare in collections, and it has invariably been called *parsimon*, but, as I have already shown, it is quite impossible for it to be the insect described by Fabricius. I have been unable to trace it from anywhere but Sierra Leone.

***Neochrysops solwezii* sp. n.** Plates XIV, fig. 2; XX, fig. 36; XXIX, fig. 36.

♂. Upperside, both wings brownish lilac with a pink tinge, in some lights dull lilac colour, with the dash closing the cells rather obscure; termen narrowly brown. Secondaries with the subanal spot edged internally with orange. No tails. Underside, both wings whitish grey, with darker spots and markings encircled with white. Primaries with the spot closing the cell subreniform; the postmedian series consisting of six spots, the third oblique, the fifth oblique shifted inwards, sixth largish; the submarginal row of internervular dashes fairly broad, marginal row more definite, inclined to be subhastate. Secondaries with four black spots near the base, three below each other, one shifted inwards on the inner margin, a fifth black spot below vein 8 at a third from the apex; a largish broad indented dash closes the cell; postmedian series composed of six large spots, the third large, ovate, slightly oblique, fourth and fifth shifted inwards, sixth outwards; submarginal row crenulate almost hastate; marginal row of spots inclined to have the spots pointed internally; subanal black marginal spot with metallic blue scales and with a broad internal orange edging, a similar very small spot at the anal angle.

♀. Upperside, both wings brown, with the basal three-quarters to the upper margin of the cell lustrous violet blue. Secondaries with all the underside markings except the black spots showing through. In the primaries the postmedian series shows through indistinctly. Underside primaries with an occasional seventh minute spot below the costa in the postmedian series. Secondaries with an occasional double black spot in the centre of the three.

Expansion, ♂ 51-56; ♀ 47-54 mm.

*Hab.* Solwezi Mwendwa, N.W. RHODESIA (*H. Dollman*) November and December; USANGU (Tanganyika District), November 1910 (*S. A. Neave*).

Types in the British Museum; co-type in the Oxford Museum and in my collector.

The colour of the male is most difficult to describe; it seems to be a mixture of heliotrope and brown and lilac with a certain admixture of pink; in a bright light it is a delicate and beautiful colour that shows but little of its delicacy on a dull day.

Genitalia. Harpagines very long of the usual ham-shaped base with long very narrow arms, slightly excised on their upper margins before the apex, which is turned up into a strong hook with a dentate edge; the whole harpago is furnished with long strong bristles; anellus large with the front margin highly conical; cingulum strongly built but of narrow dimensions; tegumen merely a narrow ridge, excised as to its front edge, with cheeks of moderate size, somewhat conical in the shape of their lower front apices; falces long and strong with unusually broad basal shoulder pieces; cheeks plentifully supplied with long bristles; aedoeagus long, of but moderate width.

Androconia very variable as between each specimen, large to very large, roundish or ovate to very large oblong; the two East African (Tanganyika District is the new name, I believe) specimens differ from each other, and these differ from the N.W. Rhodesian specimens; the roundish scales have eleven to twelve rows of reticulations placed fairly closely together, with irregular sculpturing; the ovate and oblong ones have generally eleven rows placed well apart horizontally, but vertically the reticulations are moderately close.

**Neochrysops glauca** Trimen. Plates XIV, fig. 4; XX, fig. 37; XXIX, fig. 37.

*Lycæna glauca* Trimen, S. Af. Butt., p. 21 (1887).

*Cupido glauca* Aurivillius, Rhop. Aethiop., p. 375 (1898).

*Catochrysops glauca* Butler, P.Z.S. Lond., p. 193 (1898).

*Catochrysops glauca* Neave, P.Z.S. Lond., p. 58 (1910).

*Lycæna asteris* Wallgr., K. Sv. Vet. Akad. Handl., p. 40 (1857). [*"In parte"* all authors.]

♂. Upperside, both wings delicate pale silvery blue, with the termen somewhat broadly brown. Primaries with a blackish-grey lunule closing the cell, not present in the secondaries, which have a black subanal spot bordered above with orange. Underside, both wings whitish grey, with slightly darker spots edged with white. Primaries with a lunular spot closing the cell, followed by the post-median series of six spots, the second and third slightly irregularly placed, the fifth somewhat oblique and shifted inwards, sixth

vertically below the inner margin of its predecessor; a subterminal row of subsagittate internervular marks and a terminal row (almost a continuous stripe) of broad internervular dashes. Secondaries with four black spots near the base, three below each other, one smaller, shifted well in on the inner margin, and a fifth shifted right out a quarter or less from the apex. A lunular spot closes the cell, followed by the postmedian series of six spots, the first very oblique and ovate, the second to the fourth adjacent somewhat oval, inclined slightly inwards, fifth shifted inwards, sixth slightly outwards; a subterminal row of sharply crenulate internervular marks followed by a row of spots; a subanal black spot with bluish metallic scales and an internal broad orange border with a small similar anal spot. A very fine short tail.

♀. Upperside, both wings brown with the central area of the wing from the base to three-quarters of the wing pale lustrous blue, a large spot closing the cell of the primary only, and a trace of yellow at the tornus of the primary. Secondaries with a submarginal row of lunular marks followed by a row of spots, a considerable development of orange in the anal area above the marginal spots; otherwise like the male.

Expanse, ♂ 44; ♀ 48 mm.

*Hab.* TRANSVAAL (*Selous*); MASHONALAND (*Marshall*).

Types in Joicey collection.

There is no doubt, I think, that two species have again been confused together. There is the blue species described by Trimen, and very accurately described as to colour: "in tint intermediate between the uppersides of *L. corydon* Scop. and *daphnis* W.V." (i. e. *meleager*); he, however, also says with a slight greenish gloss, and it is because of this remark, I think, that the confusion has arisen. I have no doubt that the green and the blue species are distinct; the former is a rather larger and a more robust insect than the latter, whilst it appears to obtain further north and not in the south. Neave (*l.c.*) briefly draws attention to this difference in colour between the South African *glauca* and those found further north. The androconia show decided differences, as will be seen from the descriptions and figures.

Genitalia, with the harpagines somewhat elliptical at the base, tapering gradually into the usual long arm-like sclerite with a shortly spatulate (almost knob-shaped) tip; the bristles are long but not very plenteous; the anellus is subconical at the front margin; the aedoeagus shortish and of medium width; the cingulum is decidedly

narrow; the tegumen is a narrow ridge at the rear; cheeks produced well forwards and wedge-shaped, with fine bristles; falces long, broad at the base, but with the terminal portion narrow.

Androconia somewhat variable, of a long oblong shape, but variable in size, and with a few scales ovate in form, well arched distally, tapering off rapidly proximally to the attachment stalk; ten or eleven rows of reticulations placed somewhat closely together vertically.

The figure is taken from one of Trimen's specimens (Joicey coll.) from the Transvaal.

*Neochrysops chloauges* sp. n. (*χλο-αυγής*, with a greenish lustre). Plates XIV, fig. 3; XXI, fig. 38; XXIX, fig. 38.

*Catochrysops glauca* Neave, P.Z.S. Lond., p. 58 (1910).

♂. Upperside, both wings very pale lustrous yellowish green with the termen narrowly brown. The green is of a very delicate hue, almost indescribable in words, with a peculiar iridescent lustre that changes according to the angle of light on its surface. Primaries with a dark grey bar closing the cell. Secondaries with a subanal black marginal spot with a yellow internal border. From the end of vein 2 there is a fine tail. Underside, both wings stone grey with darker marks broadly edged with white. Primaries with the usual spot closing the cell, followed by the postmedian series consisting generally of seven spots, the first minute (sometimes absent) below the costa, fourth spot oblique, largish, fracturing the series internally and externally, sixth shifted inwards, seventh a twin spot or subreniform; a series of sagittate submarginal internervular marks, marginal row of spots confluent, inclined to lose its spotted character. Secondaries with four black spots near the base, three below each other and one shifted well towards the base on the inner margin, a fifth black spot below vein 8 at a third from the apex; a large spot closes the cell; the postmedian series consists of six spots, the first isolated and oval, second, third and fourth adjacent shifted well outwards, fifth shifted inwards, sixth slightly outwards; submarginal internervular series of marks lunular rather than sagittate; terminal row of definite spots; the subanal black spot with greenish metallic scales on its outer margin and a broad internal edging of orange.

♀. With the basal median and postmedian areas whitish suffused with lustrous bluish-green scales; costal and terminal margins broadly brown, but in the secondaries the termen is spotted with brown; otherwise as in the male.

Expanse, ♂ 45-46; ♀ 46-48 mm.

Hab. N.E. and N.W. RHODESIA.

Type in my collection.

This is the species referred to under *C. glauca* Trimen, that has always been regarded as a variety of that species; I have no doubt that they are distinct. The present species, apart from its colour, which is not caused in relaxing, is more robust; the primaries are decidedly broader and the secondaries more ample than in Trimen's insect. The genitalia differ slightly, whilst the androconia can be separated at a glance.

Genitalia with the harpagines very long, narrow and highly arched; base unusually narrow, somewhat ham-shaped, very slightly excised near apex, which terminates in a spatulate, broad, short hook; base well furnished with long curved bristles, which are much less plentiful towards the apex; anellus with the front margin but slightly curved; aedeagus longer and narrower than usual; tegumen merely a very narrow collar, with small cheeks which have long narrow falces; cheeks with long bristles.

Androconia somewhat pyriform, the expansion distally being gradual but marked; distal apex broad and well arched; proximal apex quite narrow; footstalk strong, tapering; eleven rows of reticulations lying moderately close to each other. The difference in shape between this and *glauca* is observable at once.

***Neochrysops polydialecta*** sp. n. (πολὶς διάλεκτος, much discussion). Plates XIV, fig. 5; XXI, fig. 39; XXIX, fig. 39.

♂. Upperside, both wings pale violet blue with a lilac tinge; cells closed by a fine dark dash; termen narrowly black. Secondaries with a black subanal spot with a trace of a few metallic scales and an orange internal border, the latter often absent. No tails. Underside, both wings whitish grey with pale brown markings edged with white. Primaries with the dash closing the cell narrow; the postmedian series short, consisting of five small spots whose white margins touch, third spot oblique, fifth spot isolated shifted inwards; a broadish submarginal row of internervular marks, followed by a narrow terminal row. Secondaries with four black spots near the base, three below each other, one shifted well basewards on the inner margin, a fifth black spot beyond the centre of vein 8 just below it; the usual sublunular mark closing the cell; the postmedian row consisting of six spots, the first slightly ovate and slightly oblique, second shifted well outwards, third somewhat

oblique, fifth shifted inwards, sixth outwards; a submarginal row of narrow internervular lunules, the upper two of which are shifted well inwards and are diffused; a terminal row of smallish half spots; the black subanal spot with bright blue metallic scales with a broad orange internal edging and a trace of a smaller one at the anal angle.

♀. Upperside, both wings with the basal two-thirds to three-quarters up to vein 6 whitish with a strong suffusion of violet blue; costa and termen broadly brown, with a trace of whitish dashes separating the submarginal brown border from the marginal border. Underside like the male, except that in the primaries the postmedian series consists of six spots.

Expanse, ♂ 42; ♀ 44-45 mm.

*Hab.* KADUGLI, Nuba Mountains, May, August and September (*R. S. Wilson*); ULLAL, July, all in the Oxford Museum; and GULU-GULU, KIBWEZI (*F. J. Jackson*).

Types in the Oxford Museum.

This is a species that has given Professor Poulton and me more trouble than any of the group, whether it was *negus* Felder, or a paler tailless form of *parsimon* auctorem, it was most difficult to determine, and we came to the conclusion that the latter was probably the best solution of the difficulty; it proves, however, on examination of the genitalia and the androconia to be without any doubt a distinct species.

Genitalia. Harpagines longish, ham-shaped at the base, tapering into a moderately long arm-like organ, with a short, strongly hooked apex well supplied with long strong bristles for all its length; anellus with the front edge curved; aedocagus of moderate length and width; cingulum long, but of slight proportions; tegumen raised into a very narrow ridge at the extreme rear; cheeks projected well forwards, of but moderate dimensions, with well-curved front margins which are well supplied with long bristles; falces very long and curved highly near the base.

Androconia variable, of two sizes; one being of a long oblong shape with the distal extremity very slightly curved, and the proximal tapering rapidly off into the long footstalk, and the other much shorter, almost quadrate; these latter are much the more numerous; the sculpturing on both is the same, there being twelve rows of reticulations, not very close to each other, with the reticulations far apart vertically. There is one very interesting aberration which appears to be an ill-developed androconia; it is most unusually large, and



instead of having rows of reticulations it has fifteen rows of fine ribbing, something between the ribbing of the ordinary scale and the reticulations of the androconia.

*Neochrysops aethiopia* sp. n. Plates XIV, fig. 9; XXI, fig. 40; XXIX, fig. 40.

♂. Upperside, both wings pale bluish violet with a tinge of lilac. Primaries with a deep black dash closing the cell, and broadish dark termen. Secondaries with a linear black termen preceded by a row of terminal spots, the subanal spot being deep black with orange internal edging which extends into the angle; there is a fine tail from vein 2. Underside, both wings very pale whitish grey with pale brown markings broadly edged with white. Primaries with the usual spot closing the cell; the postmedian series consisting of six spots nearly vertical, the third spot slightly oblique, the fifth and sixth shifted slightly inwards; there is also a trace of a minute spot below the costa; the submarginal series consisting of five almost confluent subhastate internervular marks, together with a sixth that is shifted somewhat inwards, a terminal somewhat similar stripe with its outer margin straight (not hastate). Secondaries with four black spots near the base, three below each other well separated, and one near the base on the inner margin; a fifth black spot below vein 8, at a third from the apex; a fair-sized dash closes the cell, followed by the postmedian series consisting of six spots, the first isolated and oblique, the second to the fourth touching each other and inclined inwards in a slight curve, the bottom one of the curve shifted inwards, the sixth spot shifted outwards; the internervular marks composing the submarginal row are conical in shape; a terminal row of four spots followed by the subanal black spot with blue metallic scales and an internal orange edging, of which there is a small trace in the anal angle itself.

♀. Upperside, both wings brown with the basal three-fifths suffused with violet-blue scales up to the middle of the cell; otherwise as in the male.

Expanse, ♂ and ♀ 50 mm.

*Hab.* ♂♂ PORTUGUESE EAST AFRICA (Kola Valley and Mt. Chiperone), 1700 to 2500 feet (*Neave*); BOMA DISTRICT, EAST AFRICA; ♀ near Weenen, NATAL, 2500 feet (*Marshall*).

Type ♂ in the National Collection (five specimens), ♀ in the Hope Collection, Oxford.

The dates of capture of the four specimens are respectively,

November 19 and 21, 1913; the Boma specimen, January to March 1915, and the Natal one, November 10, 1896.

This species is allied to *N. patricia* Trimen, but the colour above and the pattern below are different, whilst it is also a much larger insect.

Genitalia. Harpagines long and narrow, tapering somewhat rapidly from a wider base, lower margin concave, upper margin convex, surface shagreened towards the apex, which forms a spatulate hook, numerous bristles along the whole length; anellus with the front margin conical; aedoeagus longish and narrowish; cingulum of moderate dimensions; tegumen a mere ridge at the rear, but rather wider than usual, with smallish checks produced forwards with long strong falces; checks with a good supply of fine bristles.

Androconia of a long oblong shape with a longish footstalk; distally the curve is broad and even, proximally it tapers off towards the attachment stalk; there are ten rows of reticulations placed rather closely together.

*Noochrysops nyasae* sp. n. Plate XIV, fig. 10.

♀. Upperside, both wings brown with the basal five-sixths up to the upper margin of the cell sparingly suffused with pale blue scales; the postmedian area inclined to be whitish. Primaries with a large irregular spot closing the cell, beyond which is a disconnected row of small dots encircled with white, the spot on the fold being larger. Secondaries with the spot closing the cell obscure, being the spot on the undersurface showing through; a trace of a postmedian row of spots; a terminal row of largish spots edged with white, and an internal lunular dark edging beyond; a subanal black spot with slight metallic scaling and an internal edging of orange; a fine tail from vein 2. Underside, both wings whitish with dark brown spots encircled with pure white. Primaries with a good-sized spot closing the cell; the postmedian series consisting of seven spots, all largish except the one directly below the costa, which is placed inwards, spots one to five are in a slight curve, the fourth spot being more or less oblique, spots six to seven are shifted inwards; the submarginal row consists of subhastate marks, and the marginal row consists of subhastate spots, more or less confluent. Secondaries with five black spots near the base, four below each other and one on the inner margin, a sixth black spot is shifted out beyond the middle below vein 8; a good-sized spot closes the cell and is followed by the postmedian series of six spots, the first being oblique and isolated, spots two to four are in a curve, the fifth is shifted

inwards and the sixth, subreniform, is shifted outwards; the submarginal stripe is lunular and is more definite than usual; the marginal row of spots is very broadly edged with white; the subanal black spot has metallic blue scales and is edged internally with orange, there being a minute repetition of this in the angle.

♀ *Expansa*, ♀ 48–54 mm.

*Hab.* NYASALAND, Mlanje and near Lake Chilwa (*Neave*); both taken in January.

Type in the British Museum. Two specimens.

I was at first unable to satisfy myself whether or not this was a dimorphic form of the female of the preceding species *aethiopia*, but the unusually marked and strongly contrasted underside, coupled with more knowledge of the variation of the genus, makes me sure that it is the female to a new species whose male has yet to be discovered; but under any circumstances the form is so well marked and so unusual on its underside that it well deserves to be named.

*Neochrysops patricia* Trimen. Plates XIV, fig. 7; XXI, fig. 42; XXIX, fig. 42.

*Lycaena patricia* Trimen, S. Afr. Butt., ii, p. 20 (1887).

*L. asteris* (*in parte*) Wallgr., Rhop. Caffr., p. 40 (1857).

*L. celaeus* (*in parte*) Trimen, Rhop. Afr. Austr., p. 247 (1866).

*L. parsimon* Wallgr., Öfvers. Vet. Akad. Förhandl., 3, 1, p. 88 (1875).

*Catochrysops patricia* Butler, P.Z.S. Lond., p. 192 (1898); *id.* Neave, P.Z.S. Lond., p. 58 (1910).

*Cupido patricia* Aurivillius, Rhop. Aethiop. p., 374 (1898).

♂. Upperside, both wings pale violet colour with narrow brown margins. Primaries with a narrowish dash closing the cell. Secondaries with a subanal black spot edged internally with orange, and a fine tail from vein 2. Underside, both wings pale brownish grey with somewhat darker spots edged with white. Primaries with the spot closing the cell; the postmedian series of six spots has the upper four in a slight curve, whilst the fifth and sixth spots are shifted inwards; the submarginal row of internervular marks is broad and more or less confluent; the terminal stripe is a series of more or less confluent spots. Secondaries with four black spots near the base, three below each other and one nearer the base on the inner margin, a fifth black spot is beyond the middle below vein 8; an oval spot closes the cell; the postmedian series is com-

posed of six spots, the first isolated, the second to the fifth somewhat confluent in a curve with the fifth shifted well inwards, the sixth spot shifted outwards; the submarginal stripe consisting of lunules; the terminal row is spotted, with a subanal black spot having blue metallic scales and an internal edging of orange colour.

♀. Upperside, both wings brown with the basal two-thirds suffused with bright blue scales; the blue area in the secondaries is more restricted, otherwise as in the male.

Expanse, ♂ 40-46; ♀ 44-54 mm.

*Hab.* CAPE COLONY; KAFFIRLAND; NATAL; ZULULAND; TRANSVAAL; MASHUNA; SOMALILAND; NORTHERN RHODESIA; KIBWEZI (*Jackson*); ABYSSINIA (British Museum).

Types in the Joicey collection.

Genitalia. Harpagines long, broadish at the base, tapering very rapidly into the usual narrow arm-like process, with the lower margin concave and the upper convex, terminating in a spatulate apex that is somewhat dentate; there are longish bristles for the whole length, in some specimens few, and in others very numerous; anellus with the front edge curved; aedocagus of moderate length and width; cingulum rather narrow; tegumen a narrowish ridge at the rear with small cheeks less projected forward than usual, with long, strong falcies; cheeks with a good-supply of bristles.

Androconia variable. The typical series in the Joicey collection have them oblong in shape, distally with a very slight curve, proximally very similar, but tapering off slightly to the attachment stalk; seven or eight rows of reticulations placed well apart, whose sculpturing is definite and well apart also.

In other specimens that are quite inseparable superficially, the androconia are rounder and broader, with twelve rows of reticulations placed closely together, whose sculpturing is also close.

I have thought it advisable to figure Trimen's type again so as to present to the student the distinctions between it and its near allies.

*Neochrysops carsoni* Butler. Plates XIV, fig. 6; XXI, fig. 43; XXX, fig. 43.

*Catochrysops carsoni* Butler, Ann. and Mag. N. H., Seventh Series, 1901, p. 290.

♂. Both wings violet blue with the termen rather broadly brown; the primaries have the cell closed with a brown dash; the secondaries

have two largish anal yellow spots, the inner one with an internal black terminal spot; a short tail at the end of vein 2. Underside, both wings dull brownish grey, rather darker in the secondaries with brown spots encircled with white. Primaries with the usual spot at the end of the cell; the postmedian row consisting of four spots below each other followed by two spots shifted well inwards; a submarginal row of broadish internervular dashes followed by a terminal row of spots. Secondaries with four subbasal white-ringed black spots, with a fifth halfway along the costa, below which is the dash closing the cell; the postmedian series consists of four spots in a deep curve, the uppermost being isolated, and the lowermost being followed by two spots shifted well inwards that lie below each other; a submarginal series of narrow lunules broadly edged with white internally; a marginal series of spots broadly edged with white internally; two anal orange spots with two black spots on their external edge, the anal one being a small twin one, a little metallic scaling on the larger black spot.

Expanse, 38 mm.

*Hab.* FWAMBO.

Type, unique, in the British Museum.

I admit this with some doubt; *patricia* is a variable species, especially as to the form of the postmedian series of spots, and this insect seems to me to be an aberration of Trimen's species, but as the type is unique it is not possible to decide the question definitely; but the androconia are certainly different, whilst the genitalia are also slighter in general build.

*Neochrysops negus* Felder. Plates XIV, fig. 12; XXII, fig. 44; XXX, fig. 44.

*Lycaena negus* Felder. Reise Nov. Lep., p. 279, Pl. 35, figs. 1 and 2 (1865); *id.* Trimen S. Afr. Butt., ii, p. 21 note (1887); *id.* Karsch, Ent. Nachr., xxi, p. 299 (1895); *Cupido negus* Aurivillius, Rhop. Aethiop., 373 (1898).

♂. Upperside, both wings pale violet sublustrous blue with dark marks closing the cells. Primaries with a row of more or less semispherical internervular terminal brown spots preceded by a submarginal series of internervular brown lunules. Secondaries with similar terminal and submarginal pattern to that in the primaries, but more pronounced; a subanal black marginal spot with orange internal edging. Underside, both wings greyish white with

pale brownish spots and markings edged with white. Primaries with the usual spot closing the cell, narrowish and sublunular; the postmedian series is composed of five or six spots, the first to the fourth spots more or less erect, the third spot generally oblique, the fifth shifted inwards, the sixth, when present, is immediately below it; the terminal row of internervular dashes is practically confluent and is preceded by a broad confluent row of submarginal sublunular marks. Secondaries with four black spots near the base, three below each other and one on the inner margin nearer the base, a fifth black spot is shifted outwards below vein 8, above the curved dash closing the cell; the postmedian series is composed of six spots, the first isolated and oblique, the second to the fifth adjacent and placed in a curve so strong as to bring the fifth spot almost below that closing the cell, sixth spot reniform, shifted somewhat outwards; the terminal row of almost semispherical spots is preceded by a definite series of confluent lunules from the apex to the anal angle; the subanal marginal spot is black with metallic blue scales edged internally with chrome yellow.

♀. Upperside, both wings brownish with a slight irroration of blue scales from the basal to the median areas; the cells are closed by a brown spot. Primaries with a confluent brown broad terminal stripe, with fine pale internal line separating it from the submarginal row of broad internervular dashes. Secondaries with a terminal row of subspherical spots preceded by a row of internervular lunules, a large black subanal spot with chrome yellow internal edging. Underside precisely as in the male. This species is not tailed.

Expanse, ♂ 40; ♀ 42-45 mm.

*Hab.* BOGOS HANSAL; NAIROBI; KUJU RIVER.

Type in the Tring Museum.

The identity of this species has for long remained uncertain; it is evidently very rare in collections. The type is a female, and it is without tails. I fortunately possess a male that I have little doubt is the male of the Tring species, and my figures of the genitalia and androconia are from this specimen.

Genitalia with the harpagines very long, widish at the base, the lower margin tapering gradually into a narrow arm highly concave on the lower margin, nearly straight on the upper margin, suddenly bent downwards at a fifth from the apex, which is spatulate and recurved upwards into a short hook; the bristles along the whole length are long and fairly plentiful; anellus with the front edge cone-shaped; aedocagus shortish, very slightly curved; anellus slightly

hollowed at the extremity; cingulum very long and narrow; tegumen a narrowish ridge at the rear, with cheeks projecting well forwards, sub-wedge-shaped, with very long falces highly hooked at the tips; the bristles on the cheeks rather fine and moderately numerous.

The genitalia as a whole are very large for the size of the insect.

Androconia very variable indeed, from a short oval shape or a long oval through an oblong of various sizes to a quadrangular form either short or long, with nine rows of reticulations, rarely ten, whose sculpturing is placed fairly far apart horizontally and decidedly so vertically.

***Necchrysops neonegus* sp. n.** Plates XIV, fig. 8; XXII, fig. 45; XXX, fig. 45.

♂. Upperside, both wings sublustrous pale blue, iridescent, pale violet at one angle of light, almost silvery at another, with very narrow brown borders. Primaries with a good-sized spot closing the cell. Secondaries with a black subanal spot edged internally with orange colour, which latter extends slightly into the anal area. A fine tail from vein 2. Underside, both wings whitish grey with brown spots edged with white. Primaries with a spot closing the cell, and the postmedian series consisting of seven spots, the first very small between the costa and vein 7, the second to the fifth in a slight curve, the third and fourth spots being placed somewhat obliquely to each other, the sixth spot shifted a little inwards, and the seventh just below it; the submarginal row is composed of six almost reniform internervular broadish dashes; the terminal row is composed of almost oval narrow dashes. Secondaries with five black spots near the base, four below each other, the two central ones close together, the fifth nearer the base on the inner margin; a good-sized black spot is placed far outwards below vein 8. A large spot closes the cell; the postmedian series is irregular and is composed of six largish elongated spots, the first oval and oblique, the second oblong shifted outwards, the third also oblong, larger, shifted inwards, fourth slightly wedge-shaped shifted inwards, fifth oblong shifted well inwards, the sixth subreniform shifted slightly outwards; the termen has a row of spots in a white area which is edged internally by a series of internervular lunules, beyond which to the postmedian row the ground-colour is almost entirely white; a subanal black spot with bright metallic scales, edged internally with an orange-chrome lunule that extends somewhat into the anal area.

♀. Upperside, both wings brownish, with the basal four-fifths pale

lustrous blue; a series of four small postmedian spots that are larger in the secondaries and are inclined to be obsolescent (I have one specimen in which all these spots are absent). In the secondaries the terminal area is whitish with a terminal row of brown spots. Underside like the male, but with the pattern accentuated.

Expanse, ♂ 38-40; ♀ 42-44 mm.

*Hab.* NAIROBI DISTRICT, February, May and June; LAITOKITOK (*Jackson*), May.

Types in my collection. A long series.

*N. negus* Felder has no tails: I regard this species as the tailed form of that insect, though the pattern below is much larger and not exactly similar; the two species are nevertheless nearly allied. The great majority of my specimens have five black spots below in the basal area of the secondaries; a few have only four, as in *negus*, but otherwise the pattern is like the species just described.

Genitalia. Harpagines very long and narrow, wider at the base, tapering slowly into a long narrow arm-like process with a shortly spatulate extremity [in the type specimen the extremities are asymmetrical, the one apex ending in a point, the other being spatulate; this asymmetry is frequent, almost totalling to 50% of the specimens mounted. I have dissected eighteen examples, but several had the apices broken off, so it is difficult to give the exact percentage]; the bristles are long and fine; the anellus has a roughly cone-shaped front margin; the aedocagus is narrow and moderately long; the cingulum is of moderate length and rather narrow; the tegumen being merely a narrow raised ridge at the rear of the cheeks, which are of small dimensions, being almost wedge-shaped and projected well forward, with longish fine bristles and long falcies of moderate width terminating in a short strong hooked apex.

Androconia variable, oblong to roundish, attachment stalk long, placed centrally, oblong scales with the distal extremity on a very slight curve, roundish scales well curved distally; proximally the oblong scales are slightly truncate, but the round ones keep their rotundity; nine to ten rows of reticulations placed fairly closely, the sculpturing vertically being moderately close also.

*Neochrysope variegata* sp. n. Plates XII, fig. 8; XXII, fig. 46; XXX, fig. 46.

♂. Upperside, both wings sublustrous violet blue. Primaries: termen rather narrowly brown, a largish spot closes the cell. Secondaries with the termen narrowly brown, a subterminal row of spots



showing through from the underside, as also does the curved dash at the end of the cell. A fine tail from vein 2. Underside, both wings whitish grey, with darker brownish-grey spots edged with white. Primaries whiter than the secondaries; largish spot closes the cell; the postmedian series of spots having the upper four spots in a slight arc, the third spot being often irregular, fifth and sixth spot shifted inwards; a terminal row of subelliptical spots, preceded by a row of six internervular dashes, the apical three being lunular. Secondaries with four black spots in the basal area, the fourth one very small, shifted well basewards on the inner margin; the black spot in the cell is sometimes a double spot; another black spot is on vein 8 above and beyond the hastate spot closing the cell; the postmedian series is composed of six spots, the first isolated oval and somewhat oblique, the four following spots in a strong curve inclined inwards, the fifth being shifted well inwards, sixth spot shifted outwards, a row of marginal spots edged internally by a row of lunules, between which and the postmedian series is a row of almost hastate, broad white marks; a subanal black spot with bright metallic green scales and edged inwardly with orange.

♀ Upperside, both wings brownish becoming paler exteriorly, with a sparse irroration of sublustrous blue scales over the lower parts of the wings, inclined to be whitish in the postmedian areas. Primaries with the addition of a postmedian series of five spots, which are liable to radiation.

Expanse, ♂ and ♀ 34 to 39 mm.

*Hab.* NAIROBI DISTRICT, 6000 feet; TONGIDO, 4500 feet, February, May and June.

Types in my collection.

Genitalia. Harpazines very long and very narrow, especially so considering the small size of the species; the base wider, though narrow, tapering fairly rapidly into the usual long arm-like process terminating in a subspatulate apex, really being more a short heavy slightly hooked extremity than spatulate; the bristles are not numerous, they are long and fairly stout; anellus cone-shaped; aedoeagus shortish and of moderate width; egingulum long and narrow; tegumen a very narrow well-raised ridge at the rear of the cheeks, which are more quadrate, with a waived front margin; the bristles are very fine and longish, with the falces long and rather narrow; terminating as usual in a fine slight hook.

Androconia almost round with nine rows of reticulations placed widely apart, the sculpturing being also widely apart vertically; the sculpturing is rather small.

*Neochrysops nevillici*, sp. n. Plates XII, fig. 9; XXII, fig. 47; XXX, fig. 47.

♂. Upperside, both wings a peculiar greyish lilac with an unusual leaden lustre, the cells closed by a narrow dash. Secondaries with a subanal black spot internally edged with orange. No tails. Underside, both wings dull pale grey with spots scarcely different from the ground-colour, but edged broadly with white. Primaries with the cell closed by a spot; the postmedian series composed of six spots, the upper four in a slight curve, the third placed obliquely, the fifth shifted inwards with the smaller sixth below it; a subterminal row of almost confluent subtriangular internervular dashes, followed almost directly by the row of terminal spots. Secondaries without the usual black spots in the basal area, except that there is a minute one in the middle of the inner margin; a very small black spot is below vein 8 near the middle of the costa; a subtriangular dash closes the cell; the postmedian series is composed of six smallish spots, the upper five in a good curve, the third spot being placed obliquely, and the fifth shifted well inwards, thus making the strong curve, the sixth spot is shifted outwards; a subterminal row of triangular dashes followed by the terminal row of subtriangular spots; a black subanal spot with metallic blue scales internally edged with chrome yellow.

♀. Upperside, both wings bright lustrous violet blue, with the cells closed by the usual spot. Primaries with costa and termen broadly dark brown, secondaries with a postmedian series of five spots, beyond which the ground-colour is inclined to be whitish; a subterminal row of subtriangular dashes, followed by a terminal row of smallish spots; otherwise like the male. Underside like the male, only all the spots are larger and more of the basal black spots are present though very small, the basal one below vein 8 and the two on the inner margin are present, the one in the cell is little more than indicated.

Expanse, ♂ 38; ♀ 39 mm.

*Hab.* Hope Fountain, S. RHODESIA.

Types in my collection.

This is a peculiar and pretty little species captured by my friend, the Rev. Neville Jones, to whom I have dedicated it. It should be readily identified when found, but the type pair are the only specimens I have yet come across, and I am very grateful to my friend for his kind gift of them.

Genitalia. Harpagines very long, especially so considering the size of the species, with base broadly ovate, tapering rapidly into the long arm-like sclerite, suddenly excised near the apex into a flattened sickle-shaped extremity, which is sharply serrate; the bristles are long and fairly numerous; anellus with a broadly cone-shaped front margin; aedoeagus moderately long and broadish; cingulum broad; tegumen narrowly ridge-shaped, with rather small cheeks having fine curved bristles and very long fine falces.

Androconia oval, moderately large, generally tapering wider distally so as to be almost fan-shaped, eleven rows of reticulations whose vertical sculpturing is fairly close together.

***Neochrysops naidina* Butler.**

*Catochrysops naidina* Butler, P.Z.S. Lond. p. 762, Pl. 47, fig. 2 (1885).

♂. Upperside, both wings pale silvery French grey blue with narrow brown margins; an indistinct anal spot to the posteriors. Underside, pale clear stone grey with dark spots encircled with white. Primaries with a blackish spot closing the cell; the postmedian series of blackish spots consisting of the upper four in a slight even curve, the third being oblique, the fifth spot shifted inwards, the sixth rather outwards; two indefinite marginal rows of dashes, the inner one being sublunular. Secondaries with five black subbasal spots, four somewhat below each other and the fifth, on the costa, seeming to form the first spot of the postmedian series, including which this series consists of seven spots, the six lower ones being liver brown in colour, the second to the fifth spots form an irregular curve, the second and fourth of these are obliquely placed, the sixth spot is shifted inwards, and the seventh very slightly outwards; the spot closing the cell is liver brown; a submarginal row of pale brown spots in a white area edged inwardly with a lunular brown stripe, which is edged internally with a more or less sagittate white area; two black anal spots, the lower one small, and indefinitely edged above with orange and with iridescent scales.

*Hab.* SOMALILAND.

Type in the British Museum (unique).

This is a very distinct little species.

***Neochrysops procera* Trimen.** Plates XXII, fig. 48;  
XXX, fig. 48.

*Lycaena procera* Trimen, Trans. Ent. Soc. Lond., p. 125,  
Plate. 8, figs 3 and 4 (1893).

- Cupido procerus* Aurivillius, Rhop. Aethiop., p. 374 (1898).  
*Catochrysops procera* Butler, P.Z.S. Lond., p. 842 (1897).  
*Catochrysops procerus* Neave, P.Z.S. Lond., p. 57 (1910).

♂. Upperside, both wings dull violet blue with broadish brown borders. Primaries with a dark lunule at the end of the cell. Secondaries with a trace of a terminal row of spots. No tails. Underside, both wings clear ash grey with slightly darker spots sharply edged with whitish. Primaries with the cell closed by a lunule; the postmedian series composed of five smallish spots with a dot below the fifth, the five spots are irregular in a slight curve with the third placed obliquely; an ill-defined subterminal series of internervular lunules followed by a similar terminal series of oval spots. Secondaries with four black spots near the base, three below each other and one on the inner margin near the base, a fifth black spot below the costa above the lunule closing the cell; postmedian series composed of six spots, the first isolated, the second to the fifth in a slight curve inclined basewards, sixth shifted outwards; a subterminal row of defined internervular lunules preceded by short sagittate white marks and followed by a row of terminal spots; a subbasal small black spot with metallic scales and a faint yellow internal edging.

Expanse, 20 mm.

*Hab.* NATAL.

Type in the Joicey collection.

The female of this species appears to be unknown.

Genitalia. Harpagines of the long arm-shaped formation, the base being very little wider than the rest of the harpago, which is decidedly wider than usual and is somewhat uneven in outline, at a third from the tip it rapidly tapers down narrowly into a bluntly pointed curved apex; bristles very long and fairly strong along the whole length; anellus produced forward in an irregular front edge; aedocagus of a fair length, not very broad; cingulum long and of moderate dimensions; tegumen narrowly ridge-shaped with cheeks bluntly wedge-shaped produced well forwards with plenty of bristles; falces long, broad at the base, highly curved.

Androconia very large, of a long oblong shape with a slight depression in the centre of the distal edge, tapering off proximally into the attachment stalk, which is long, with thirteen rows of reticulations whose sculpturing is small and rather far apart vertically,

**Neochrysops hypopolia** Trimen. Plates XIV, fig. 11;  
XXIII, fig. 49; XXX, fig. 49.

*Lycaena hypopolia* Trimen, S. Afr. Butt., ii, p. 30 (1887).  
*Cupido hypopolia* Aurivilleus, Rhop. Aethiop., p. 373 (1898).

♂. Upperside, both wings of a peculiar dull plumbeous violet with a broadish brown termen, cell closed by a faint dark dash in the primaries only. Secondaries with a subanal yellow spot pupilled with black. Underside, both wings whitish grey with pale brown marks edged with whitish. Primaries with a spot closing the cell; postmedian series consisting of five spots very evenly placed in a slight curve; a trace of a subterminal internervular row of marks, followed by a much fainter trace of a terminal row. Secondaries with four minute black spots near the base, the fourth shifted inwards on the margin; the cell is closed by a fair-sized dash; the postmedian series consisting of six spots, the first isolated below, but shifted outwards from, a small black spot below the costa, the second and third large, shifted outwards, forming with the smaller fourth and fifth a series inclined sharply inwards, sixth shifted outwards; a subterminal row of lunular (almost crenulate) internervular marks, followed by a faint trace of terminal small spots; a minute black subanal spot with metallic scales and edged inwardly with yellow.

Expanse, 45-48 mm.

*Hab.* NATAL; TRANSVAAL; MASHONALAND, Umtali, (Dobbie) [B. M.].

Types in the Joicey collection.

There are specimens from the Transvaal in the Joicey collection that Trimen himself refers to that are brown below with the spots of the same colour, but encircled with white; I have no doubt they are the same species, but they are not as fresh as the type, and it may well be that the whitish scales have rubbed off, as they have every appearance in the type specimen of being rather loosely superimposed scales.

*Genitalia.* Harpazines of the long arm-like type, with the base but little wider, tapering gradually towards the apex, which is excised into a broad strong-hooked extremity; the whole length is plentifully supplied with strong bristles; anellus broadly conch-shaped, aedeagus short and broad; cingulum long and very narrow; tegumen a narrowish ridge with lobe-shaped cheeks projecting well forwards, having fine bristles, with the falces long and broadish at the base.

Androconia variable from oval to oblong, all highly arched distally; a fair number of the scales being unusually long, all of which are straight laterally, with ten rows of reticulations placed well apart, whose sculpturing is placed vertically very close together.

### Euchrysops Butler.

*Euchrysops* Butler, Entomologist, 33, p. 1 (1900); *id.* Swinhoe, Lep. Ind., p. 40 (1910); *id.* Rothschild, Nov. Zool., 22, p. 137 (1915).

*Catochrysops* Boisduval, Voy. Astrol. Lep. i, p. 87 (1832); *id.* Moore, Lep. Cey., p. 90 (1881); *id.* Distant, Rhop. Malay., p. 223 (1884); *id.* de Nicéville, Butt. Ind., iii, p. 175 (1890); *id.* Bingham, Fauna Brit. Ind. Butt., ii, p. 410 (1907); *id.* Seitz, Gross. Schm. Erde, i, p. 292 (1909).

For detailed synonymy see under *Euchrysops cnejus*.

Neuration. Primaries, cell half the length of the wing, vein 1 waived terminating almost in the tornus, vein 2 commencing from beyond the middle of the cell, 3 from well behind the lower angle, 4 from the lower angle, 5 from the middle of the discocellulars, 6 from the upper angle, 7 from well behind the angle, 8 stalked from 7 shortly in front of the costa, 9 absent, 10 and 11 from the cell, the latter from about the middle thereof, 12 waived reaching the costa a little before the middle. Secondaries, with cell not half the length of the wing, fairly broad, vein 1*b* longish, 1*a* to above the tornus, vein 2 long commencing before the middle of the cell, 3 from well behind the lower angle, 4 from the lower angle, 5 from the middle of the discocellulars, 6 from the upper angle, 7 from near the centre of the cell, 8 long. A short fine tail from the end of vein 2. Eyes glabrous in the type, hairy in *E. barkeri*. Antennae with a longish club, deeply grooved. Palpi upturned, not exactly porrect, second segment long roughly scaled, third segment slender slightly scaled. Legs slender and short.

Type, *Euchrysops cnejus* Fabricius.

***Euchrysops cnejus* Fabricius.** Plates XXIII, fig. 50;  
XXX, fig. 50.

*Hesperia cnejus* Fabricius, Ent. Syst. Suppl., p. 430 (1798).  
*Polyommatus cnejus* Godart, Enc. Méth., ix, p. 657 (1823).  
*Lycaena cnejus* Horsfield, Cat. Lep. E.T.C., p. 83 (1829).  
*Lycaena pandia* Kollar, Hügel's Kaschmir, iv, pt. 2 (1848).

- Lycaena patala*, *id.* l.c., p. 419 (1848).  
*Lycaena cnejus* Moore, P.Z.S. Lond., p. 773 (1865); *id.*  
 Herrieh-Schäffer, Ex. Schm., ii, fig. 120 ♀ (1869).  
*Lycaena samoa* Herrieh-Schäffer, Stett. Ent. Zeit, xxx, p. 37  
 and 138, Pl. iv, fig. 180 (1869).  
*Lampides cnejus* Butler, Cat. Fab. Lep. B.M., p. 165 (1869).  
*Cupido cnejus* Druce, P.Z.S. Lond., p. 348 (1873).  
*Lampides patala* Butler, Trans. Linn. Soc. Lond., Zool.  
 Second Series, i, p. 547 (1877).  
*Lampides cnejus* Semper, J. Mus. Godef. xiv, p. 158 (1879).  
*Catochrysops cnejus* Moore, Lep. Cey., p. 92 (1881); *id.*  
 Butler, P.Z.S. Lond., p. 605 (1881); *id.* Moore, P.Z.S.  
 Lond., p. 246 (1882); *id.* Doherty, J.A.S.B., lvi,  
 p. 62 (1882).  
*Catochrysops patala* Butler, P.Z.S. Lond., p. 148 (1883).  
*Catochrysops cnejus* Distant, Rhop. Malay., p. 225 (1884).  
*Catochrysops patala* Swinhoe, P.Z.S. Lond., p. 131 (1885);  
*id. idem*, p. 426 (1886).  
*Catochrysops cnejus* Semper, Schm. Philip, i, p. 185 (1886).  
*Catochrysops cnejus* Doherty, J.A.S.B., lv, p. 133 (1886).  
*Catochrysops cnejus* Distant, Rhop. Malay., p. 456 (1886);  
*id.* de Nicéville, Butt. Ind., iii, p. 177 (1890); *id.*  
 Grose Smith, Nov. Zool. i, p. 578 (1894); *id.*  
 Leech, Butt. China, ii, p. 335 (1894); *id.* Doherty  
 J.A.S.B., lxvi, p. 181 (1897); *id.* Watson, J.A.S.B.,  
 lxvi, p. 608 (1897); *id.* de Nicéville, l.c., p. 698  
 (1897); *id.* Bingham, Fauna. Brit. Ind. Butt., ii, p. 411  
 and p. 415 (1907); *id.* Kershaw, Butt. Hongkong, p. 74  
 (1907); *id.* Lefroy, Ind. Ins. Life, p. 427 (1909); *id.*  
 Pagenstecher, Geog. Ver. Schmett, p. 248 (1909);  
*id.* Seitz, Gros. Schm. Erde, i, p. 292 (1909); *id.* Swin-  
 hoe, Lep. Ind., viii, p. 40 (1910); *id.* Vrehmeyer, Phil.  
 J. Sc. Vol. V.D., p. 69 (1910); *id.* Green, Mem. Dep.  
 Agr. Ind. Ent., Ser. V, No. 1, (1913); *id.* Waterhouse  
 and Lyell, Butl. Austr., p. 100 (1914); *id.* Fletcher,  
 S. Ind. Ins. etc., p. 414, Pl. 26 (1914).  
*Euchrysops cnejus* Butler, Entomologist, xxxiii, p. 1 (1900).

#### Description.

♂. Upperside, both wings pale lilac violet with narrowish brown termen. Secondaries with an anal and subanal black spot, edged internally with yellow in some specimens but not in others. Underside, both wings pale clear whitish grey with darker spots edged with white. Primaries with a narrow dash closing the cell; the post-

median series composed of six narrowly oval spots, almost erect in line, the lowest spot sometimes absent; the submarginal row of six internervular lunules is followed by a terminal similar row of dashes, which is often indistinct. Secondaries with four small black spots near the base, three below each other and one nearer the base on the inner margin, a fifth black spot just below the costa beyond the middle; the postmedian series is composed of six spots, the first almost isolated, the second to the fifth shifted slightly outwards in an irregular curve inclined inwards, sixth spot subreniform and shifted slightly outwards; a subterminal row of well-marked internervular lunules preceded by white sagittate marks and succeeded by a row of defined terminal spots; two black anal spots with metallic scales and edged internally with yellow.

♀. Upperside, both wings brown covered with silvery-blue scales for the basal three-quarters up to the upper margin of the cell; the secondaries with a row of terminal spots.

Expanse, ♂ 33-35; ♀ 32-38 mm.

*Hab.* INDIA; CEYLON; BURMA; MALAY PENINSULA; NIAS; ANDAMAN; NICOBAR ISLANDS; SUMATRA; JAVA; BORNEO; CELEBES; PHILIPPINES; CHINA; AUSTRALIA; NEW GUINEA; SOUTH SEA ISLANDS.

Genitalia. Harpagines longish arm-like processes, the basal half of a long subovate shape, tapering more narrowly in the centre and then expanding to the apex, so as to form a sort of spatulate jaw, deeply excised at the tip into a broad hook toothed on the inner upper margin; the bristles are at the base confined to the lower margin and are numerous, long and strong, in the apical area they are not so confined; anellus weakly developed, with the front margin broadly cone-shaped; aedoeagus shortish, of moderate width; eingulum narrow at the base, expanding decidedly as it approaches the cheeks of the tegumen; tegumen ridge-shaped with lobed-shaped cheeks not produced far forward with fair-sized bristles; falcis long and of moderate dimensions.

Androconia, roughly pomegranate-shaped, but without a central depression, with twelve to fourteen rows of reticulations whose sculpturing is generally close together.

#### *Euchrysops suffusus* Rothschild.

*Euchrysops suffusus* Rothschild, Nov. Zool., 22, p. 137 (1915).

Differs from *cnejus* only in that the markings are inclined to obsolescence and that the underside is paler.

It is no doubt a local race of *E. cnejus*.



Hab. BALI.

Type in the Tring Museum.

**Euchrysops luzonica** Röber. Plate XXIII, fig. 50a.

*Plebeius luzonicus* Röber, Gesellsch. Iris i, p. 60, Pl. v, fig. 22 (1886).

I have not seen this species, and the description is so short that (with species so difficult to separate as these are) I am unable to give any opinion about it.

Hab. LUZON (Philippine Islands).

**Euchrysops barkeri** Trimen. Plates XXIII, fig. 51; XXX, fig. 51.

*Lycaena barkeri* Trimen, Trans. Ent. Soc. Lond., p. 129, Pl. 8, figs. 5, 6 (1893).

*Lycaena osiris* ♀ Trimen (*nec* Hopf.), S. Afr. Butt., ii, p. 15 (1887).

*Lycaena asteris* Snellen, Tijd. v. Ent., ii, 7, p. 18, Pl. 1, figs. 4, 5 (1872).

*Lycaena tiressa* Karsch, Ent. Nachn., 21, p. 298, note 55 (1895).

*Catochrysops barkeri* Butler, P.Z.S. Lond., p. 192 (1898).

*Catochrysops barkeri* Neave, P.Z.S. Lond., p. 57 (1910).

♂. Upperside, both wings pale lilaceous violet (with less pink in than is the case with *E. cnejus*), with the termen dark and rather broad. Primaries with the cell closed by a fine dash. Secondaries with a subanal black spot always edged with bright orange. A fair-sized tail from the end of vein 2. Underside, both wings pale stone grey with pale brownish markings edged with white. Primaries with a narrow dash closing the cell; the postmedian series composed of six spots, quite irregular so that no spot is in a line with its neighbour, the third to the sixth are very generally oblique, the fifth and sixth being each shifted inwards; the subterminal row of internervular dashes is moderately broad and is followed by the terminal row of more or less oval dashes. Secondaries with three subbasal small black spots below each other, a small black spot nearer the base on the inner margin is often absent, a fifth black spot is situated below the costa well beyond the middle, a curved dash closes the cell; the postmedian series is composed of six spots, the first oblique and narrowly ovate, the second and third shifted outwards, the fourth is small and shifted inwards, the fifth well inwards, the sixth angled and shifted slightly outwards; a row of subterminal lunules

followed by a terminal row of spots, of which the subanal one is black with metallic scales, and a broad internal orange lunule, some orange being also present in the angle itself.

♀. Upperside, both wings brownish grey with the basal two-thirds irrorated with lustrous azure-blue scales, less prominent in the secondaries, in which there is a row of dark subterminal lunules with whitish sagittate inner edging, and followed by a terminal row of dark spots; otherwise like the male.

Expanse, ♂. 34-36; ♀ 36-40 mm.

*Hab.* NATAL; ZULULAND; TRANSVAAL; SWAZILAND; RHODESIA; EASTERN EQUATORIAL AFRICA; CONGO; SIERRA LEONE; (*Coll. Bethune-Baker*) ANGOLA (*Coll. B.-B. and Kenrick*).

Type in the Joicey collection.

I have a fair series from Angola, and they are of a decidedly greyer shade of colour than those from the eastern and southern localities.

*Genitalia.* Harpagines very long and very narrow, the base being rather wider than the long arm and tapering down rapidly, the apical extremity for a fifth slightly reduced in width and very slightly excavated, terminating in a fair-sized knob; a plentiful supply of bristles at the apical end, reducing rapidly in number towards the middle, where they almost cease; anellus hood-shaped, very weakly developed; aedoeagus narrow, very long and simple, with a small vesica well shagreened and armed with fine teeth; this is the only instance where the vesica shows any armature, ordinarily it is of the simplest possible structure; cingulum angled near the base, of moderate length and dimensions; tegumen ridge-shaped, with smallish cheeks having fine bristles; falces short (for the genus) and thick.

Androconia very broad, pomegranate-shaped, but raised in the centre distally (not depressed), with a strong broad attachment stalk, there are fourteen to fifteen rows of reticulations placed moderately well apart, whose sculpturing is close together.

*Euchrysops dolorosa* Trimen. Plates XXIII, figs. 52 and 52a; XXXI, fig. 52.

*Lycæna dolorosa* Trimen. S. Afr. Butt., p. 41 (1887).

*Catochrysops dolorosa* Butler, P.Z.S. Lond., 1897, p. 843.

*Cupido dolorosus* Aurivillius, Rhop. Aethiop., p. 373 (1898).

*Lycæna dolerosa* Trimen (*in parte*), p. 76, Pl. 5, fig. 13 ♂ (*nee* 13a ♀), 1906.

*Catochrysops dolerosus* Neave, P.Z.S. Lond., p. 57 (1910).

♂. Upperside, both wings very dull violaceous with somewhat narrow brown borders. Secondaries with a black subanal spot and a trace of a terminal row of spots. Underside warm brown with very slightly darker spots somewhat palely encircled. Primaries with a spot closing the cell; the postmedian series composed of six spots not fractured, the upper four in a slight curve, the third being placed obliquely, the fifth and sixth below each other and shifted somewhat inwards; a faint trace of a subterminal series of internervular dashes and of a terminal row of spots. Secondaries with four brown (not black) inconspicuous spots near the base, three below each other and one nearer the base on the inner margin, a darker one beyond the centre of the costa below vein 8; a curved spot closes the cell; the postmedian series is composed of six spots, the first almost isolated, the second shifted well outwards and forming, with the third, fourth and fifth, each of which is shifted inwards, a row of spots inclined strongly basewards, sixth spot shifted outwards, an inconspicuous row of terminal spots with the faintest trace of sagittate slightly paler internal edging, a subanal black spot with metallic-blue scales. No tails.

♀. Upperside, both wings brown with a central patch of violaceous blue scales; otherwise precisely like the male.

These descriptions are taken from the specimens from Natal that are marked "type" in Trimen's writing. They are the dullest and most obscure of the whole group. The colour of the male, however, in other localities is much brighter violet blue, but the underside is unmistakable. In Trimen's plate referred to above the artist has emphasised the whole of the markings, and especially the white edges, much too strongly; I have seen no Natal specimen with such definite markings. Trimen, in our Transactions, *l.c.*, refers to his figure of the female as a variety that he received from Mr. Feltham from Delagoa Bay; this figure is not, however, *dolorosa*, but is, I have no doubt, my *subpallida* major.

Expanse, ♂ and ♀, 30-32 mm.

*Hab.* NATAL; TRANSVAAL (*Crawshay*), in the Brit. Mus.; USANGU REGION, Tanganyika District (*Neave*).

Types in the Joicey collection.

Genitalia. Harpagines rather broad (more so at the base), tapering slowly to beyond the middle, where there is a sudden deep curve downwards, from whence they taper very rapidly into a bold sickle-shaped apex; a fair supply of long bristles for most of the

length; anellus bluntly cone-shaped; aedoeagus of but moderate length and width; cingulum angled in the middle and bent well forwards; tegumen a high narrow ridge-shaped collar, with lobe-shaped cheeks with plenty of bristles; falces moderate length and width.

Androconia broadly ovate, tapering somewhat proximally to the attachment stalk, with ten rows of well-marked reticulations placed vertically close together.

**Euchrysops subpallida**, sp. n. Plates XII, fig. 15; XXIV, fig. 53; XXXI, fig. 53.

♂. Upperside, both wings pale violet colour with broadish brown borders to the primaries, and in the secondaries with linear borders, but with a somewhat indefinite marginal row of spots, and with a subanal black spot. Underside, both wings pale stone grey with decidedly darker spots sharply encircled with white. The arrangement of spots is so similar to that of *mauensis* that it would be difficult to differentiate it, except that in the postmedian series of the primaries spots two and three are placed at an angle to each other, thus interrupting the even curve. The subterminal row of internervular dashes is decidedly narrower and more definite, and in the secondaries the basal spots are black. No tails.

♀. Upperside, both wings brown, with the basal and median areas brightish violet blue; otherwise like the male.

Expanse, ♂ 29-31; ♀ 30-32 mm.

*Hab.* SAGALLA, B.E.A. (*St. Aubyn Rogers*); NYUJORO and NAIROBI (*E. J. Jackson*); TONGIDO (*H. C. Tytler*); Fort Jamieson, RHODESIA; Hope Fountain, BULAWAYO (*Neville Jones*).

Types in my collection.

I have found it very difficult to decide whether we have two closely allied species or not in *mauensis* and this insect. The look of the underside is quite distinctive; *mauensis* is obscure and dark in its pattern below, whilst this is pale and very definite. I have a long series of this latter, and they seem to be readily separated from my other species.

Again, the scales of *mauensis* are very broad and squarish in shape, but the scales of *subpallida* are very variable indeed, variable in the specimen itself and more variable when comparing the specimens among each other.

Taking all the points into consideration, I think it is

advisable to treat them as two species, more especially as the genitalia differ also.

Genitalia. Harpagines short, with the base broad from where it gradually tapers to the middle, where it is suddenly depressed at almost right angles and rapidly tapers to a fine apex, which is turned into a short somewhat sickle-shaped termination; fine bristles occupy most of the length; anellus smallish with a curved front edge; aedoeagus longish, somewhat narrow; cingulum bent forward in the middle; tegumen a high collar-like ridge rather wider than in *mauensis*, with small lobe-shaped cheeks that have long strong falces.

Androconia of a longish oblong shape, well arched distally and tapering off but little proximally, with nine to twelve rows of reticulations moderately separated horizontally and rather closely approximated vertically. In different specimens the androconia are often of different lengths and may be so even from the same wing; the difference, however, except for length, is more apparent than real.

#### *Euchrysops subpallida* major, var. nov.

♂. Upperside, both wings of a richer tone of violet than in *subpallida*, much larger in size. Underside with the ground-colour warmer in tone than in *subpallida*, with the encircling cream-colour not white; whilst in the secondaries the area between the subterminal and the postmedian series is not white but merely a row of subsagittate white marks, so that the whole underside looks much less white.

♀. Upperside, both wings brown with the basal and median areas violet blue.

Expanse, ♂ and ♀ 34–36 mm.

*Hab.* NAIROBI DISTRICT, LAITOKITOK, KBWEZI, N.W. RHODESIA; BEDEGA.

Type in my collection.

In the Transactions of the Ent. Soc. London for 1906 at p. 76 Trimen refers to what he considers to be a female variety of *dolorosa*, which he figures on Pl. v, fig. 13a. This is without doubt a female of this form. I have put this down as a large form of *subpallida* from its close resemblance superficially; the androconia, however, are very different to typical *subpallida*, these being a very long oblong shape, but in the race major they are much shorter

and approach very nearly to some of the more variable examples of the previous species, whilst the genitalia are also similar to it.

*Androconia*: pyriform, rather small and short, with twelve rows of reticulations, closely approximated vertically. The scales vary somewhat in each specimen and also on the same specimens, some almost approach the smaller scales in *subpallida*, but I have seen no pyriform scales in true *subpallida*; the insects are, however, so close superficially that it seems better to treat them as races rather than species.

***Euchrysops mauensis*, sp. n.** Plates XII, fig. 13; XXIV, fig. 54; XXXI, fig. 54.

♂. Upperside, both wings violet blue with narrowish brown borders. Secondaries with a black subanal spot with narrow orange internal edge; a row of distinct terminal dark spots. Underside, both wings brownish grey with darker spots having whitish edges. Primaries with a spot closing the cell; the postmedian series composed of six roundish spots, the upper four in an even curve, the fifth shifted inwards, the sixth inclined obliquely outwards; a subterminal row of broadish internervular dashes, increasing in width towards the anal angle; a terminal row of small spots. Secondaries with four small dark spots at the base as usual, a fifth dark spot in the middle of the costa below vein 8; a spot closes the cell; postmedian series composed of six spots, the second shifted outwards, the third, fourth and fifth each inwards, sixth outwards; a terminal row of spots preceded by a subterminal row of brown lunules, between which and the postmedian series the ground is whitish; a deep black subanal spot with metallic blue scales and an internal orange lunule.

♀ Upperside, both wings brown with the basal and median areas violet. Secondaries with the terminal row accentuated; otherwise as in the male.

Expanse, ♂ 30; ♀ 31 mm.

*Hab.* The MAU ESCARPMENT, B.E.A.

Type in my collection.

*Genitalia.* Harpagines short, broad for the basal two-thirds, but slightly wider at the base, at a third from the apex suddenly excised into a deep sickle-shaped termination, with long strong bristles in the central and upper portion of the harpago; anellus small and of slight dimensions; aedoeagus rather long considering the size of

the insect, and of but moderate width; cingulum angled in the middle, of moderate dimensions; tegumen merely a very highly-raised very narrow-ridged half collar, with small wedge-shaped cheeks which have long strong falces; cheeks with plenty of long bristles.

Androconia of a short squarish broadly oblong shape, almost straight distally, often with a slight central depression, with twelve or thirteen rows of heavily accentuated reticulations somewhat closely approximated horizontally and very closely vertically.

*Euchrysops albistriatus* Capronnier. Plates XII, fig. 12;  
XXIV, fig. 55; XXXI, fig. 55.

*Lycaena albistriatus* Capronnier, Bull. Ent. Soc. Belg., 33,  
p. 121 (1889).

*Cupido albistriatus* Aurivillius, Rhop. Æthiop., p. 373, Pl. 6,  
fig. 4 (1898).

*Catochrysops albistriatus* Neave, P.Z.S. Lond., p. 57 (1910).

♂. Upperside, both wings pale lavender blue with very broad brown borders. Primaries with a dash closing the cell. Secondaries with a black subanal spot edged internally by orange, and with a trace of a terminal row of dark spots. Underside, both wings pale stone grey with somewhat darker markings edged sharply with white. Primaries with a spot closing the cell; postmedian series composed of an unbroken row of six spots, the four upper spots in a slight curve, the two lower slightly oblique; a subterminal row of broadish internervular dashes, and a terminal row of oval spots. Secondaries with the usual four basal black spots which are small, and a fifth small black spot almost at the apex of the wing; the cell is closed by a curved spot; the postmedian series of six spots is unusually even, the second spot is shifted somewhat outwards, the third to the fifth each slightly inwards, and the sixth slightly outwards; a subterminal row of internervular lunules edged broadly with subsagittate white marks; a terminal row of small spots; a black subanal spot with broad orange internal edging. No tails.

Expanse, 32-34 mm.

*Hab.* CONGO; SIERRA LEONE (*Skinner*); UGANDA (*Neave*).  
Type in the Brussels Museum.

Genitalia. Harpagines short, broadish at the base, somewhat ham-shaped, tapering rapidly to a fine point at the apex, which is well turned upwards; the lower edge is concave and the upper slightly convex longish bristles occupy the basal two-thirds; anellus

of slight dimensions; aedocagus very short and rather broad; cingulum short of moderate width; tegumen a very narrow high ridge tapering rapidly into the well-developed checks, which have fine bristles; the falcies are of moderate length.

Androconia: pomegranate-shaped with long attachment stalks, with thirteen rows of reticulations placed moderately apart, whose sculpturing is deep and placed fairly close together vertically.

*Euchrysops katangae*, sp. n. Plates XII, fig. 11; XXIV, figs. 56 and 56a; XXXI, figs. 56 and 56a.

♂. Upperside, both wings dull violaceous. Primaries with a broad dash closing the cells, and with very broad dark brown well-defined borders. Secondaries with a black subanal spot surrounded copiously with orange, a trace of a terminal spotted border. Underside, both wings warm ash grey with darker spots definitely encircled with white. Primaries with a spot closing the cell; the postmedian series almost erect, the upper three spots in a very slight curve, the fourth slightly oblique and so slightly shifted inwards, fifth more oblique, sixth oblique again and smaller; a row of subterminal internervular dashes, followed by a terminal similar row of narrow oval spots. Secondaries with the usual four black spots near the base, and a fifth one beyond the middle just below vein 8. Cell closed by an angled spot; postmedian series of six spots scarcely fractured, the second spot is shifted somewhat outwards, third, fourth and fifth each slightly inwards, sixth slightly outwards; a subterminal row of small lunules edged by a row of small white sagittate marks and followed by the terminal row of spots, a black subanal spot almost surrounded by a large orange patch.

♀. Upperside, both wings with the basal two-thirds whitish tinged with blue to about the middle of the cell. Underside with the ground-colour browner and the spots larger and rounder; otherwise like the male.

Expanse, ♂ 35; ♀ 38 mm.

*Hab.* KAMBOVE (*Neave*).

Types in the British Museum.

Genitalia. Harpagines short and broad, the basal two-thirds almost wedge-shaped; from the base the harpago tapers rapidly above and below to about two-thirds, where it is suddenly upturned and tapers more rapidly into a strong sharp hooked apex; a fair supply of long strong bristles; anellus of rather small dimensions; aedocagus short and very broad; cingulum of very moderate length,

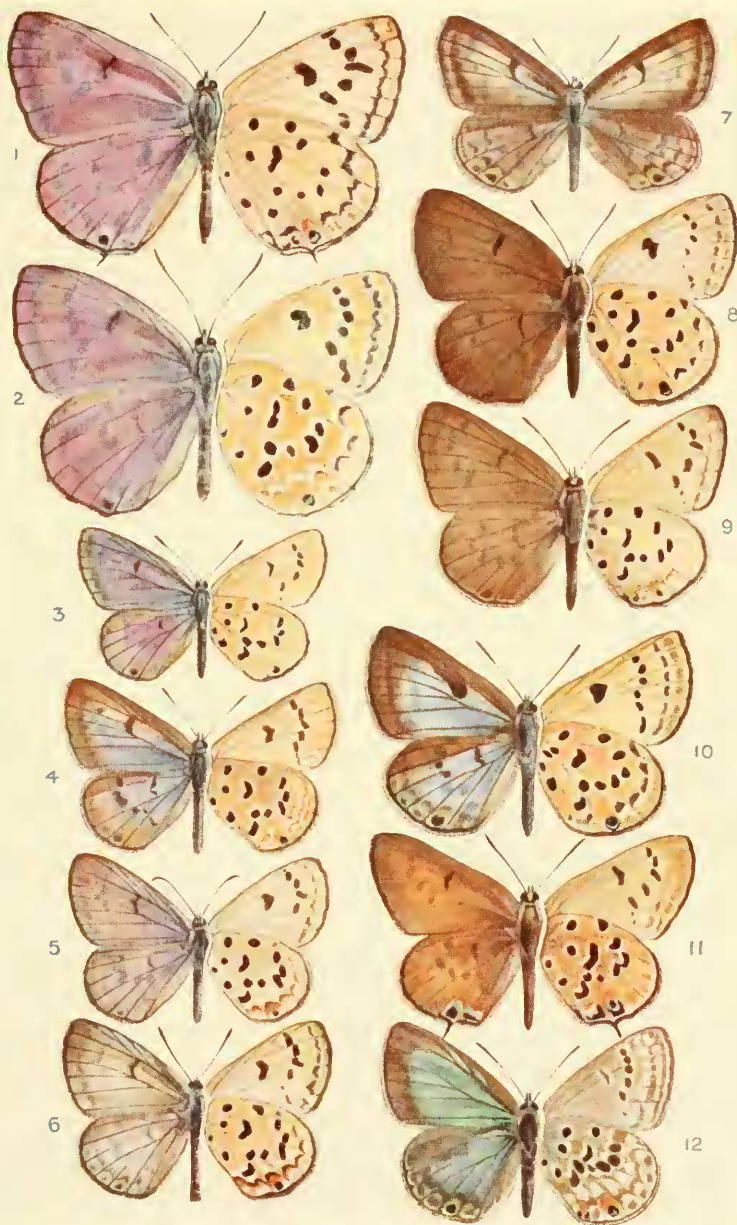




Figs. 1-21. *Crimps*

FORMS OF NEOCHRYSOPS AND EUCHRYSOPS.

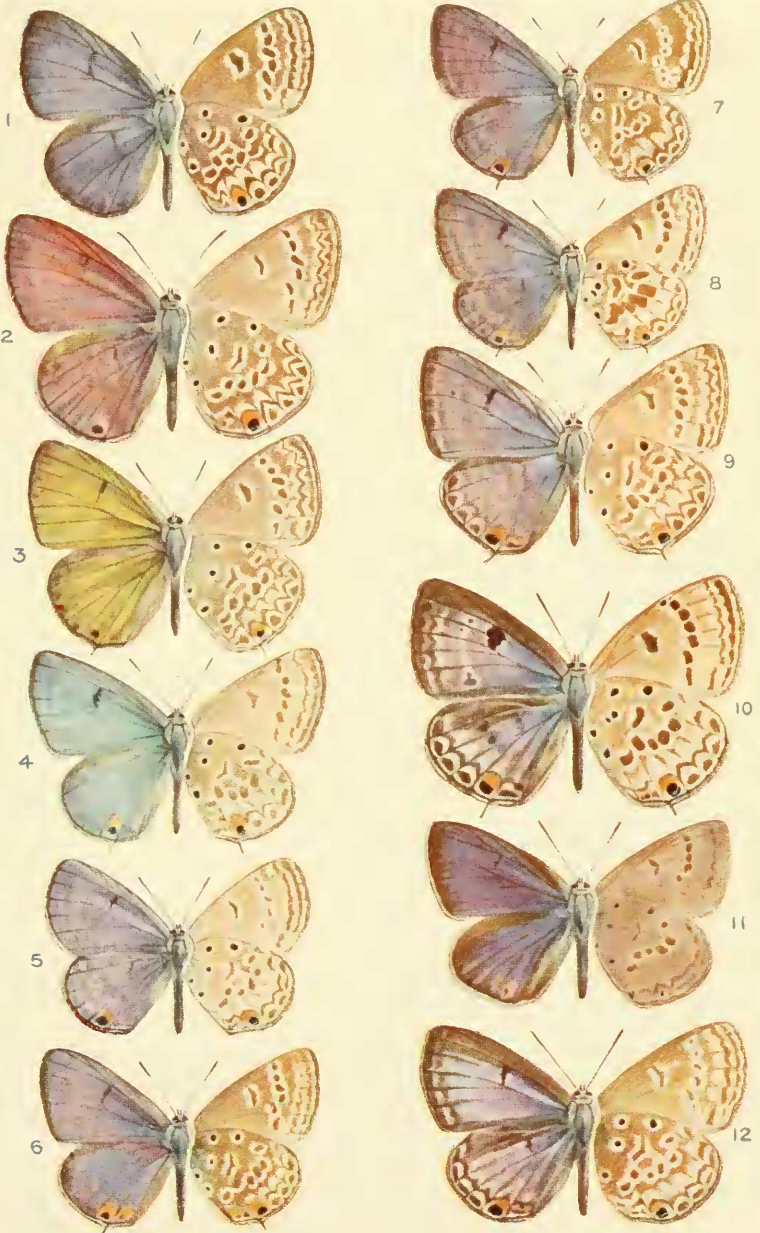




*Vaus & Crampton*

FORMS OF *NEOCHRYSOPE*

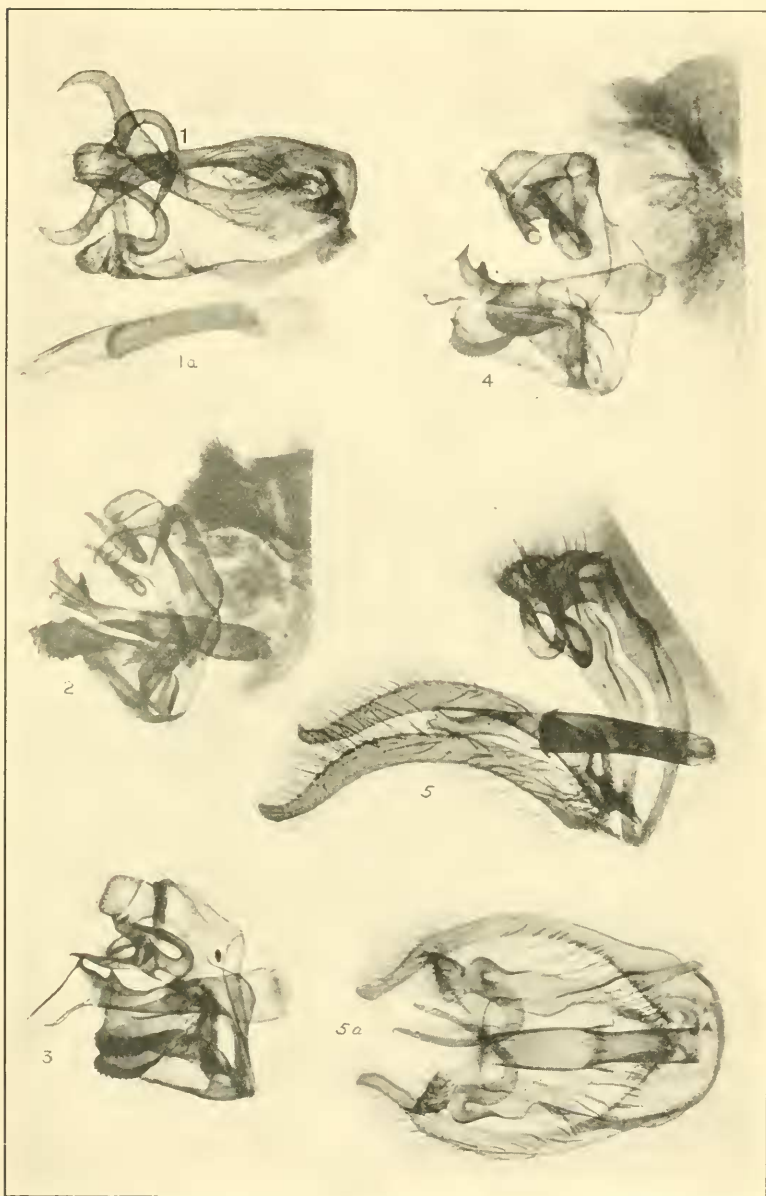




*Van. Cramp.*

FORMS OF NEOCHRYSOPS.





*Vaus & Crampton*

*Fowler, imp.*

GENITALIA OF NEOCHRYSOPS





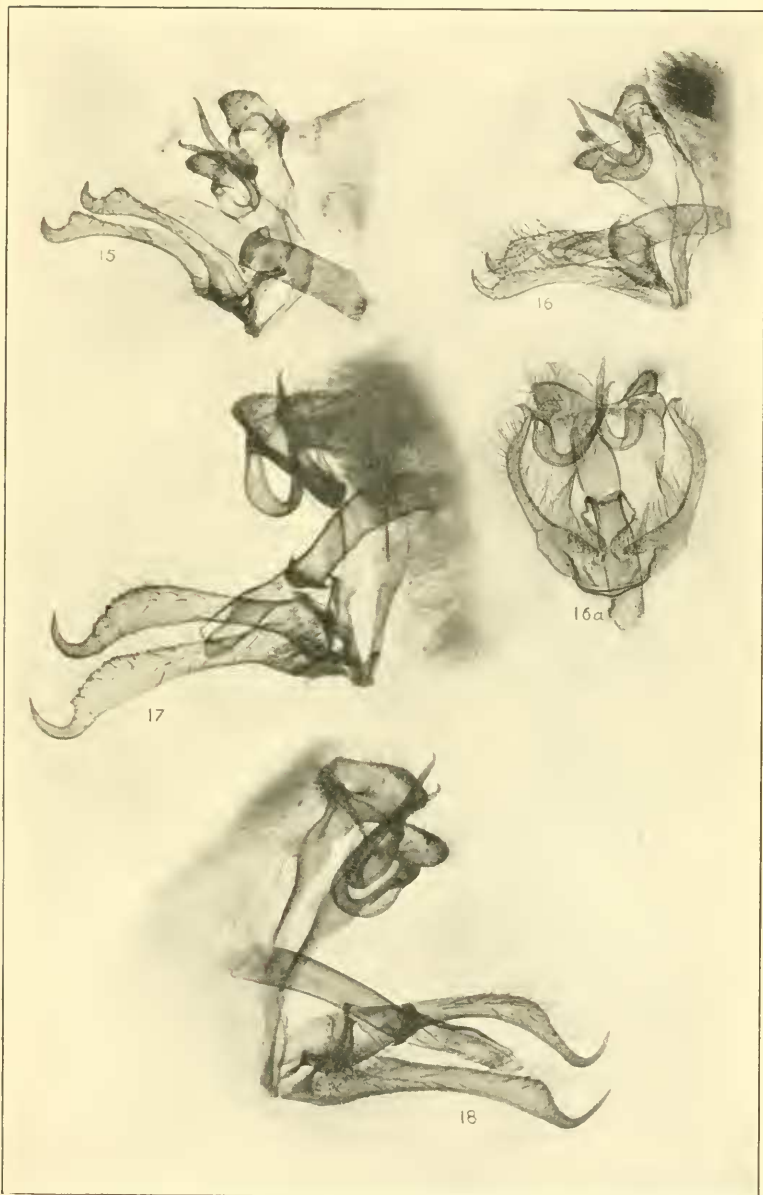


Vaus & Crampton

Fowler, imp.

GENITALIA OF NEOCHRYSOPS





*Vaus & Crampton*

*Fowler, imp.*

GENITALIA OF NEOCHRYSOPS

